

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

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CENSUS OF MANUFACTURES: 1914

MICHIGAN

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## EXPLANATION OF TERMS.

**Scope of census.**—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

**Period covered.**—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

As a rule, the same designation is used for the industry wherever it appears, although all of the products indicated by this designation were not manufactured in the state or city for which these statistics are presented. In some instances the wording is changed so as to more correctly describe the products represented. For a number of industries subclasses are shown which indicate more definitely the kind of products.

**Selected industries.**—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

**Comparisons with previous censuses.**—Owing to changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. At the census of 1909 the figures for kindred industries were combined. This practice, as a rule, has been followed in compiling the statistics of 1914 when placed in comparison with those for 1909 and prior years. The comparative summary for 1914, 1909, and 1904, therefore, does not show separately all the industries given for 1914 in the detailed statement for the state.

**Influence of increased prices.**—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

**Persons engaged in the industry.**—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1890 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined for any state, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation. This total, however, is shown for the different cities, because the limited area and greater regularity of employment largely overcome the objection incident to its publication for the separate states or the United States.

(2)

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added to give the average distribution for each state as a whole and for the entire country.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work in any industry if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Rent and taxes.**—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was therefore given.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

**Primary horsepower.**—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.



# MICHIGAN.

## GENERAL STATISTICS.

**General character of the state.**—Michigan was admitted to the Union as a state in 1837. With a gross area of 57,980 square miles, of which 500 represent water surface, it ranks twenty-second in size among the states. Its inhabitants in 1900 numbered 2,420,982 and in 1910, 2,810,173, and the estimated population in 1914 was 2,976,030. In total population Michigan ranked eighth among the states in 1910, and in density of population it ranked seventeenth, with 48.9 inhabitants per square mile, the corresponding figure for 1900 being 42.1.

The urban population of the state in 1910—that is, the population residing in incorporated places having 2,500 inhabitants or more—was 1,327,044, or 47.2 per cent of the total, as against 39.3 per cent in 1900.

There were in the state in 1914, 3 cities having an estimated population of more than 50,000 each, namely, Detroit, 537,650; Grand Rapids, 123,227; and Saginaw, 53,988. There were also 24 cities each having an estimated population of more than 10,000 but less than 50,000. These 27 cities, whose aggregate population in 1914 formed 40.4 per cent of the estimated total population of the state, reported 64.3 per cent of the state's manufactured products.

The transportation facilities of the state, both by rail and by water, are excellent. The steam-railway mileage in 1914, as reported by the Interstate Commerce Commission, was 8,934, and the length of road of electric railways was 1,396 miles in 1912 (the latest year for which statistics are available). In addition, four of the Great Lakes, which nearly surround the state, form an important factor in the transportation system, furnishing, with canals, a direct water outlet to the Atlantic seaboard.

The total value of farm crops in 1909 was \$162,004,681, of which 51 per cent (\$82,613,296)

represented grain and seeds, and 22.2 per cent (\$36,040,087) hay and forage. The total value of domestic animals on farms was \$131,746,348, of which 30.7 per cent (\$40,500,318) represented cattle and 54.1 per cent (\$71,312,474) horses.

The total mineral production of the state in 1914, according to the annual report of the United States Geological Survey, was valued at \$57,732,447, the principal products being copper ore, \$21,857,759, and iron ore, \$18,722,358. In that year Michigan ranked second among the states in the production of iron ore and third in copper, with 26 per cent and 14.3 per cent, respectively, of the total values reported for the United States.

**Importance and growth of manufactures.**—The manufactured products of Michigan in 1914 were valued at \$1,086,162,432; the average number of wage earners employed in its manufacturing industries was 271,090 (9.1 per cent of the total population of the state); and the value added by manufacture, which is the best measure of the importance of a manufacturing industry, amounted to \$493,361,368. The proportion which the manufactures of the state represented of the total value of products in the United States increased from 2.8 per cent in 1899 to 3.3 per cent in 1909 and to 4.5 per cent in 1914. The growing industrial importance of Michigan is indicated by the fact that in value of manufactured products it has advanced from ninth place among the states in 1899 to eighth in 1904 and to seventh in 1914.

Table 1 summarizes the more important data relative to all classes of manufactures combined in the state of Michigan for the censuses of 1914, 1909, 1904, and 1899, and gives the percentages of increase from census to census.

	MANUFACTURING INDUSTRIES.				PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	8,724	9,159	7,446	7,310	-4.7	23.0	1.9
Persons engaged.....	320,611	271,071	200,196	( <sup>2</sup> )	18.3	35.4	-----
Proprietors and firm members.....	7,725	8,965	7,732	( <sup>2</sup> )	-13.8	15.9	-----
Salaries and wages.....	41,796	30,607	17,235	13,350	36.6	77.6	29.1
Wage earners (average number).....	271,090	231,499	175,229	155,800	17.1	32.1	12.5
Primary horsepower.....	764,183	598,288	440,890	368,497	27.7	35.7	19.6
Capital.....	\$809,143,114	\$583,946,965	\$337,894,102	\$246,996,529	48.8	72.8	36.8
Salaries and wages.....	250,524,979	153,838,044	98,749,270	74,867,786	62.8	55.8	31.9
Salaries.....	68,272,695	34,870,214	17,470,433	12,335,974	95.8	99.6	41.6
Wages.....	182,252,284	118,967,830	81,278,837	62,531,812	53.2	46.4	30.0
Paid for contract work.....	7,973,706	3,397,011	4,475,054	( <sup>2</sup> )	134.7	-24.1	-----
Rent and taxes (including internal revenue).....	18,481,171	11,757,437	8,072,474	( <sup>2</sup> )	57.2	-----	-----
Cost of materials.....	592,801,064	368,612,022	230,080,931	175,966,128	60.8	60.2	30.8
Value of products.....	1,086,162,432	685,109,169	429,120,060	319,691,856	58.5	59.7	34.2
Value added by manufacture (value of products less cost of materials).....	493,361,368	316,497,147	199,039,129	143,725,728	55.9	59.0	33.5

<sup>1</sup> A minus sign (—) denotes decrease.

<sup>2</sup> Figures not available.

<sup>3</sup> Exclusive of internal revenue.

## MANUFACTURES.

During the 15 years covered by Table 1, the capital invested in manufacturing industries and the value of manufactured products more than trebled, and marked increases are shown for most of the items for which figures are given.

This table brings out the fact that the manufacturing industries of Michigan, as a whole, developed to a greater extent during each of the two more recent five-year periods, 1904-1909 and 1909-1914, than during the period 1899-1904. The increase in value of products in 1914 over 1909 was \$401,053,263, or 58.5 per cent, which was more than the total value of products for the state as reported at any census prior to 1904. During the period 1909-1914 the number of establishments decreased by 435, or 4.7 per cent, and the number of proprietors and firm members, by 1,240, or 13.8 per cent. The decrease in the number of establishments may be largely accounted for by

the decrease in the establishments engaged in the lumber and timber and flour-mill and gristmill industries, which also affects the number of proprietors and firm members, as these industries were principally in small mills under individual or partnership forms of ownership. The decrease in proprietors and firm members may also be due to changes in character of ownership, as shown in Table 16.

The amount paid for contract work in 1914 was more than double the amount reported for 1909. The increase was due largely to the changes in the methods employed in conducting the various manufacturing industries, and was most noticeable in the automobile industry.

Table 2 shows the relative importance of the leading manufacturing industries in 1914, and gives percentages of increase for the three five-year periods from 1899 to 1914.

Table 2

INDUSTRY.	CENSUS OF 1914.							PER CENT OF INCREASE. <sup>1</sup>								
	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
All industries.....	8,724	271,090	100.0	\$1,086,162,432	100.0	\$493,361,368	100.0	17.1	32.1	12.5	58.5	59.7	34.2	55.9	59.0	38.5
Automobiles, including bodies and parts.....	205	67,538	24.9	398,289,022	36.7	179,073,627	36.3	165.4	830.3	.....	312.1	1,108.6	.....	318.7	839.2	.....
Foundry and machine-shop products.....	705	26,497	9.8	64,576,497	5.9	37,456,742	7.6	22.4	32.0	0.4	42.2	44.4	23.6	40.3	53.8	16.6
Lumber and timber products.....	748	28,527	10.5	58,523,217	5.4	29,167,209	5.9	-19.9	4.2	-25.9	-4.9	7.5	-16.7	-10.2	(*)	-11.2
Furniture and refrigerators.....	202	16,267	6.0	33,857,041	3.1	19,495,818	4.0	-2.1	14.0	13.5	18.2	39.7	27.8	15.2	42.7	33.0
Flour-mill and gristmill products.....	427	1,370	0.5	27,881,474	2.5	4,082,303	0.8	-10.5	1.5	13.5	-21.5	31.5	22.5	-25.8	77.6	-4.3
Leather, tanned, curried, and finished.....	23	2,773	1.0	25,503,573	2.3	4,521,326	0.9	21.0	31.1	22.4	66.4	64.1	55.3	40.8	55.1	56.9
Printing and publishing.....	1,113	8,166	3.0	24,953,324	2.3	17,455,196	3.5	13.1	20.3	19.0	43.8	44.0	46.8	40.6	43.9	37.8
Paper and wood pulp.....	37	6,051	2.2	22,049,990	2.0	7,505,045	1.5	39.8	41.8	51.5	58.4	89.6	74.0	53.2	77.4	82.8
Butter, cheese, and condensed milk.....	364	1,867	0.5	21,549,597	2.0	3,087,094	0.6	27.4	22.6	74.0	50.8	74.0	109.5	61.6	61.6	83.3
Slaughtering and meat packing.....	36	1,181	0.4	21,266,915	2.0	1,983,717	0.4	30.9	80.8	6.4	58.3	111.4	17.7	12.1	143.3	24.9
Tobacco manufactures.....	626	9,075	3.3	20,667,016	1.9	11,703,664	2.4	15.2	22.5	21.7	27.7	36.4	28.3	30.5	27.8	14.8
Brass, bronze, and copper products.....	64	4,731	1.7	16,868,725	1.6	5,395,258	1.1	-0.8	.....	.....	21.4	.....	.....	10.2	.....	.....
Patent medicines and compounds and druggists' preparations.....	142	3,369	1.2	16,433,772	1.5	9,431,216	1.9	3.7	28.1	12.1	22.0	28.7	43.7	10.5	27.9	51.7
Food preparations, not elsewhere specified.....	56	1,683	0.6	16,005,282	1.5	8,966,167	1.8	29.2	25.2	179.1	39.3	70.2	257.0	33.0	49.9	270.5
Bread and other bakery products.....	922	4,014	1.5	16,000,068	1.5	6,691,971	1.4	52.2	20.2	65.1	44.4	55.7	73.6	51.7	35.2	76.9
Liquors, malt.....	70	2,097	0.8	15,041,247	1.4	10,713,219	2.2	37.3	20.1	29.7	52.9	40.6	32.1	44.4	39.8	29.1
Chemicals.....	36	4,509	1.7	13,891,415	1.3	7,517,930	1.5	42.1	-4.8	16.4	7.8	42.6	69.7	-3.8	68.7	75.8
Sugar, beet.....	10	1,326	0.5	11,023,058	1.0	4,778,173	1.0	-9.2	20.6	156.0	5.2	94.8	235.7	12.5	162.8	228.7
Stoves and furnaces, including gas and oil stoves.....	27	4,074	1.5	10,756,739	1.0	7,042,118	1.4	-9.1	0.2	.....	17.9	13.7	.....	11.7	19.2	.....
Gas, illuminating and heating.....	59	2,349	0.9	10,440,641	1.0	7,084,447	1.4	32.6	37.6	95.6	54.7	74.5	102.5	53.4	68.2	133.7
Canning and preserving.....	91	2,507	0.9	8,194,225	0.8	3,301,640	0.7	20.9	2.5	44.4	64.8	30.2	43.7	74.0	31.5	72.6
Agricultural implements.....	30	2,143	0.8	7,731,217	0.7	5,091,259	1.0	-9.2	-25.4	62.8	-16.6	6.3	37.5	-20.2	22.2	35.4
Cars and general shop construction and repairs by steam-railroad companies.....	26	5,803	2.1	7,569,197	0.7	4,304,747	0.9	7.4	21.8	12.6	10.7	27.4	23.9	9.7	41.6	25.2
Paints.....	21	695	0.3	6,110,200	0.6	2,777,385	0.6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wirework, including wire rope and cable, not elsewhere specified.....	33	1,314	0.5	5,891,274	0.5	1,973,142	0.4	44.6	-7.6	103.3	11.5	52.8	167.7	7.3	25.2	107.5
Copper, tin, and sheet-iron products.....	162	2,397	0.9	5,650,135	0.5	2,842,738	0.6	0.5	52.0	186.0	14.6	70.6	177.0	19.3	59.7	234.0
Iron and steel, blast furnaces.....	12	991	0.4	5,450,063	0.5	1,573,484	0.3	-2.5	-10.8	122.0	-6.4	25.4	99.6	-1.7	3.9	67.0
Boots and shoes.....	24	2,035	0.8	5,357,151	0.5	2,175,760	0.4	-17.1	42.5	54.3	1.9	48.9	84.4	14.0	26.0	101.7
Clothing, men's, including shirts.....	39	2,502	0.9	5,306,230	0.5	2,310,392	0.5	-30.1	54.3	-5.6	-18.8	55.4	2.6	-26.5	87.4	-2.7
Hosiery and knit goods.....	34	2,714	1.0	5,232,985	0.5	2,622,550	0.5	6.6	-17.5	23.0	29.9	11.2	29.8	32.3	11.3	33.6
Corsets.....	16	2,149	0.8	4,981,581	0.5	3,083,032	0.6	-12.7	78.6	-7.5	14.1	121.2	16.0	23.8	95.4	27.9
Cement.....	11	1,340	0.5	4,529,026	0.4	2,121,312	0.4	2.6	26.9	.....	55.4	13.9	.....	40.3	-8.4	.....
Salt.....	15	1,434	0.5	4,420,772	0.4	2,353,652	0.5	5.2	-1.8	-4.2	21.0	51.9	-2.3	17.1	65.6	-11.1
Cooperage and wooden goods, not elsewhere specified.....	82	1,967	0.7	3,838,953	0.4	1,775,786	0.4	-25.5	1.1	56.1	-3.8	2.5	95.7	-10.6	-5.4	105.0
Carriages and wagons and materials.....	177	1,417	0.5	3,774,827	0.3	1,846,976	0.4	-64.9	-37.0	4.7	-62.8	-31.8	15.5	-62.3	-24.1	20.8
Boxes, fancy and paper.....	23	1,461	0.5	3,747,876	0.3	1,617,079	0.3	10.2	58.6	47.2	41.2	190.6	155.0	56.1	114.7	123.1
Paper goods, not elsewhere specified.....	14	750	0.3	3,587,842	0.3	1,335,961	0.3	-36.5	.....	.....	1.0	.....	.....	-16.4	.....	.....
Electrical machinery, apparatus, and supplies.....	35	1,144	0.4	3,415,500	0.3	1,675,952	0.3	-6.1	130.2	187.5	46.8	231.5	60.3	29.3	217.9	59.4

<sup>1</sup> Percentages are based on figures in Table 37; a minus sign (-) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

Table 2—Continued.

INDUSTRY.	CENSUS OF 1914.							PER CENT OF INCREASE. <sup>1</sup>								
	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
Brick, tile, pottery, and other clay products.....	102	2,194	0.8	\$3,174,100	0.3	\$2,116,638	0.4	23.9	8.1	3.0	38.4	18.1	51.5	28.8	11.6	46.5
Confectionery.....	64	993	0.4	3,039,808	0.3	1,220,307	0.2	-5.6	34.4	26.7	3.3	73.3	25.4	6.4	72.2	18.9
Shipbuilding, including boat building.....	62	1,261	0.5	2,822,557	0.3	1,563,814	0.3	-46.2	17.3	-31.5	-43.9	69.3	-32.9	-38.5	34.3	-15.2
Musical instruments, pianos and organs and materials.....	17	1,070	0.4	2,681,855	0.2	1,422,486	0.3	-39.9	66.4	40.7	-36.5	113.0	68.1	-35.8	79.7	74.8
Wood distillation.....	10	645	0.2	2,678,151	0.2	970,382	0.2	-20.0	177.0	.....	11.6	225.1	.....	-22.0	221.4	.....
Clothing, women's.....	32	1,672	0.6	2,660,507	0.2	1,466,660	0.3	-23.8	7.4	32.7	-25.8	-1.2	65.4	-21.8	-1.1	94.7
Leather goods.....	103	675	0.2	2,425,554	0.2	1,012,458	0.2	-19.1	32.4	-12.0	-5.2	84.3	-4.3	-8.1	75.2	-2.8
Springs, steel, car and carriage, not made in steel works or rolling mills	6	638	0.2	2,174,957	0.2	992,242	0.2	8.5	82.0	-8.0	66.3	141.8	-7.4	32.4	189.6	-4.8
Gas and electric fixtures and lamps.	13	597	0.2	2,094,365	0.2	1,158,772	0.2	51.1	.....	.....	35.5	.....	.....	28.2	.....	.....
Wall plaster.....	13	631	0.2	2,073,741	0.2	1,330,812	0.3	-15.4	117.5	.....	46.0	68.8	.....	31.9	118.4	.....
Confectionery (ice cream).....	60	194	0.1	1,802,993	0.2	704,645	0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Window shades and fixtures.....	8	702	0.3	1,754,750	0.2	771,268	0.2	10.4	182.7	.....	35.4	155.1	.....	57.6	230.4	.....
Iron and steel, steel works and rolling mills.....	9	718	0.3	1,716,351	0.2	845,410	0.2	-39.3	16.2	-30.2	-35.7	-1.5	-24.1	-21.1	17.5	-24.6
Mineral and soda waters.....	120	391	0.1	1,695,666	0.2	877,099	0.2	55.2	44.8	6.1	86.4	81.3	27.7	61.8	63.2	27.2
Fur goods.....	35	380	0.1	1,679,920	0.2	861,965	0.2	-38.6	-2.5	17.4	-26.4	29.0	2.5	-33.7	76.9	26.1
Coffee, roasting and grinding.....	16	88	( <sup>2</sup> )	1,617,989	0.1	301,991	0.1	15.8	375.0	-52.9	72.5	605.3	-40.1	17.1	658.8	-40.1
Marble and stone work.....	111	461	0.2	1,561,481	0.1	924,667	0.2	-16.3	26.4	4.8	3.8	38.2	10.6	1.4	32.6	26.5
Iron and steel forgings.....	11	552	0.2	1,492,842	0.1	685,975	0.1	79.8	.....	.....	148.0	.....	.....	89.7	.....	.....
Coffins, burial cases, and undertakers' goods.....	23	540	0.2	1,354,669	0.1	706,764	0.1	23.0	-30.3	65.8	24.9	-11.4	54.9	19.6	-15.4	63.6
Cars and general shop construction and repairs by electric-railroad companies.....	18	885	0.3	1,326,474	0.1	694,590	0.1	54.2	35.4	86.8	1.9	121.3	96.7	96.9	28.0	95.0
Paving materials.....	9	570	0.2	1,228,604	0.1	847,706	0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woolen goods.....	9	477	0.2	1,215,467	0.1	422,730	0.1	-13.9	.....	.....	-22.6	.....	.....	-40.3	.....	.....
Artificial stone products.....	217	483	0.2	1,059,966	0.1	659,670	0.1	-6.0	667.2	.....	16.7	663.0	.....	18.0	635.5	.....
Show cases.....	6	410	0.2	1,034,635	0.1	571,920	0.1	-50.2	33.4	963.8	-44.5	60.2	769.4	-46.5	61.4	670.9
Carriages and sleds, children's.....	8	462	0.2	970,486	0.1	527,848	0.1	-16.8	129.3	171.9	42.2	102.4	200.9	24.2	127.3	183.3
Cutlery and tools, not elsewhere specified.....	28	453	0.2	965,451	0.1	578,854	0.1	-32.2	54.3	36.6	-14.1	54.0	58.7	-21.8	58.1	56.5
Wood, turned and carved.....	45	576	0.2	949,751	0.1	610,665	0.1	-49.3	-7.3	33.6	-44.4	9.0	69.6	-43.2	9.8	53.5
Mattresses and spring beds.....	23	278	0.1	877,136	0.1	358,092	0.1	-9.2	57.7	-11.0	27.3	34.0	-1.3	26.9	54.1	-8.0
Ice, manufactured.....	11	443	0.2	764,956	0.1	636,620	0.1	409.2	.....	.....	284.2	.....	.....	301.3	.....	.....
Scales and balances.....	3	276	0.1	612,022	0.1	404,328	0.1	21.1	72.7	300.0	16.9	103.1	226.6	37.3	52.8	278.4
Signs and advertising novelties.....	18	140	0.1	566,058	0.1	387,133	0.1	.....	.....	.....	-18.0	.....	.....	-29.9	.....	.....
Mirrors, framed and unframed.....	8	189	0.1	540,741	( <sup>2</sup> )	197,166	( <sup>2</sup> )	-18.5	.....	.....	.....	.....	.....	-17.7	6.3	30.9
Baskets, and rattan and willow ware	13	238	0.1	536,756	( <sup>2</sup> )	251,961	0.1	-36.2	-7.9	-10.0	11.9	10.3	21.8	.....	.....	.....
Toys and games.....	7	251	0.1	529,373	( <sup>2</sup> )	285,650	0.1	-10.0	65.1	87.8	22.5	70.8	105.7	10.1	50.0	186.7
Soap.....	11	78	( <sup>2</sup> )	522,446	( <sup>2</sup> )	159,956	( <sup>2</sup> )	14.7	-48.1	7.4	-2.5	-33.0	13.3	-12.1	-39.9	29.5
Awnings, tents, and sails.....	24	154	0.1	501,915	( <sup>2</sup> )	240,619	( <sup>2</sup> )	19.4	74.3	-35.7	43.8	77.2	-9.2	60.7	51.5	1.0
Oil, essential.....	53	33	( <sup>2</sup> )	491,842	( <sup>2</sup> )	266,220	0.1	-29.6	315.4	-83.5	1.2	102.5	29.0	274.6	-4.1	12.1
All other industries.....	681	18,560	6.8	91,098,370	8.4	37,329,798	7.6	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Percentages are based on figures in Table 37; a minus sign (-) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

<sup>2</sup> Less than one-tenth of 1 per cent.

Separate statistics are presented for 75 industries, or industry groups, for each of which products valued at more than \$490,000 were reported for 1914. These industries include 20, with products exceeding \$10,000,000 in value; 10, with products between \$5,000,000 and \$10,000,000; 32, with products between \$1,000,000 and \$5,000,000; and 13, with products valued at less than \$1,000,000. Among those included under the head of "all other industries," are 26 industries which have products exceeding in value some of those presented in the table. Of these industries, there were 14 which had a product in excess of \$1,000,000. These are included under the head of "all other industries," to avoid the possible disclosure of the operations of individual establishments. Of these industries, the smelting and refining of copper was the most important and ranked high among the industries of the state. The manufacture of cash registers and calcu-

lating machines was next in importance, followed by rubber goods; steam-railroad cars; coke; silk goods; varnishes; billiard tables and materials; fertilizers; smelting and refining, not from the ore; distilled liquors; glucose and starch; cleansing and polishing preparations; and house-furnishing goods, not elsewhere specified.

The industries in this table are arranged in the order of their importance as measured by value of products, but the arrangement would vary considerably if based on average number of wage earners or value added by manufacture. The automobile industry ranked first in all three respects. Foundry and machine shop and lumber and timber industries ranked second and third, respectively, in both value of products and value added by manufacture, but were third and second, respectively, in average number of wage earners. Furniture and refrigerators ranked fourth in all three respects.

Flour-mill and gristmill products ranked fifth in value of products, but was thirty-first in number of wage earners, and twentieth in value added by manufacture. The rank of the flour-mill and gristmill industry in value of products, as compared with its low rank in number of wage earners and value added by manufacture, is due in part to the fact that the work is done largely by machinery and comparatively few employees are required; therefore, the proportional value added to the raw material by manufacture is small in comparison with the corresponding proportions for most other industries. Leather, tanned, curried, and finished, sixth in value of products, was fourteenth in number of wage earners and eighteenth in value added by manufacture. Butter, cheese, and condensed milk held ninth place in value of products, but ranked thirty-second in number of wage earners, and twenty-second in value added by manufacture. Slaughtering and meat packing, tenth in value of output, was thirty-seventh in number of wage earners and thirty-second in value added by manufacture.

In rank according to value of products, there were a number of changes as compared with 1909. Automobiles, including bodies and parts, and butter, cheese, and condensed-milk industries held the same rank in value of products in 1914 as in 1909. Foundry and machine-shop products advanced from third in 1909 to second place in 1914, having displaced lumber and timber products, which took third place. Furniture and refrigerators and flour-mill and gristmill products, ranking fourth and fifth, respectively, in 1914 exchanged places during the five-year period from 1909, when they ranked fifth and fourth, respectively. Leather, tanned, curried, and finished, advanced from eighth place in 1909 to sixth place in 1914; paper and wood pulp, from tenth place in 1909 to eighth place in 1914; and slaughtering and meat packing, from thirteenth place in 1909 to tenth place in 1914. Printing and publishing ranked sixth in 1909 but seventh in 1914. For the remainder of the industries numerous changes from census to census are noticeable.

*Automobiles, including bodies and parts.*—Prior to 1904, the statistics for the manufacture of automobiles were reported with those for the carriage and wagon industry. Michigan has held first rank in the industry at each successive census since 1904, contributing 26.6 per cent of the total value of products in this industry for the United States in 1904; 38.8 per cent in 1909; and 62.9 per cent in 1914. It is interesting to note that 16.1 per cent of the entire number of establishments and 53.1 per cent of the average number of wage earners employed in the industry were reported for Michigan in 1914. The total value of products has grown from \$7,996,534 in 1904 to \$96,651,451 in 1909, and \$398,289,022 in 1914, being almost fifty times as great in 1914 as in 1904. In 1914 the automobile industry employed 24.9 per cent of

the wage earners engaged in manufactures in the state, and contributed 36.7 per cent of the total value of manufactured products. Of the total increase in value of manufactured products in the state from 1909 to 1914, \$301,637,571, or 75.2 per cent, was in this industry.

This classification also includes the manufacture of automobile accessories, but these products are interwoven with the manufacture of foundry and machine-shop products; brass, bronze, and copper products; rubber goods, not elsewhere specified; electrical machinery, apparatus, and supplies; and carriages and wagons. The statistics for automobile bodies and parts, therefore, do not represent the full extent of this branch of the industry.

*Food and kindred products.*—In Michigan this group of industries includes flour mills and gristmills, not including those doing custom grinding; the butter, cheese, and condensed-milk industry; slaughtering and meat packing, including the manufacture of sausage; food preparations, including fancy cereals, mincemeat, canned soups, and similar preparations; bakeries; beet-sugar industry; canning and preserving, which includes the canning and preserving of fruits, vegetables, and fish, and the preparation of pickles, preserves, and sauces; confectionery; and coffee, roasting and grinding. In 1914 the 1,986 establishments reported for these nine industries employed 14,529 wage earners, manufactured products valued at \$126,078,416, and added \$34,413,863 to the materials by the processes of manufacture. Although during the period 1909–1914 there was a decrease of 62, or 3 per cent, in the number of establishments, the number of wage earners increased by 2,423, or 20 per cent; the value of products by \$21,591,790, or 20.7 per cent; and the value added by manufacture, by \$6,528,937, or 23.4 per cent. With the exception of flour mills and gristmills, each of the industries showed an increase in value of products during the period.

*Foundry and machine-shop products.*—This industry group employed an average of 26,497 wage earners and reported an output valued at \$64,576,497 in 1914, which represent increases of 22.4 per cent and 42.2 per cent, respectively, over the corresponding figures for 1909. The nine industries of this group, together with the value of products of each, are general foundry and machine-shop products, \$39,428,783; engines, steam and gas, \$12,369,172; structural ironwork, \$4,918,366; steam fittings and steam and hot-water heating apparatus, \$2,915,323; plumbers' supplies, \$1,914,139; hardware, \$1,591,385; pumps, steam and other power, \$637,251; gas machines and gas and water meters, \$443,853; and automobile repairing, \$358,225.

The statistics do not fully represent the importance of this industry, as many establishments, primarily engaged in the manufacture of a distinctive product, were assigned to other classifications, although their subsidiary products included articles similar to those reported by foundries and machine shops.

*Lumber and timber products.*—Under this heading are included logging plants, whose chief products are logs and bolts; sawmills, shingle mills, and planing mills, producing rough lumber, shingles, lath, cooperage materials, sash, doors, blinds, interior finish and other millwork; and wooden packing-box factories. Statistics for mills engaged exclusively in custom sawing for local consumption are not included.

In 1914 the industry ranked third in the state in number of establishments, second in average number of wage earners, and third in value of products and in value added by manufacture. The number of wage earners employed was 28,527, and the total value of products amounted to \$58,523,217. In 1914 there were 748 establishments as compared with 1,180 in 1909. The supply of timber in the state has steadily declined. Since 1889 the value of products for the industry has decreased at each census year except 1909.

*Furniture and refrigerators.*—Michigan ranked second among the states in this industry and first in refrigerators alone in 1914. The value of the output of the industry amounted to \$33,857,041 in 1914, as compared with \$28,641,684 in 1909, an increase of 18.2 per cent.

In 1914 the furniture branch of the industry employed an average of 14,706 wage earners and turned out products valued at \$30,184,542, which were 90.4 per cent and 89.2 per cent, respectively, of the corresponding totals for the industry as a whole.

*Leather, tanned, curried, and finished.*—This classification includes not only establishments which are engaged primarily in the tanning, currying, and finishing of leather for themselves, but also those which treat hides or skins for others.

The industry has shown remarkable growth, the value of products having increased from \$1,744,000 in 1889 to \$25,503,573 in 1914. During the period 1909–1914 the number of wage earners increased by 482, or 21 per cent, and the value of products by \$10,172,469, or 66.4 per cent.

*Printing and publishing.*—Under this classification are included establishments engaged in printing and publishing newspapers and periodicals, books, and music; job printing; bookbinding and blank-book making; lithographing; and steel and copper plate engraving. The industry ranked first in the state in number of establishments—reporting about one-eighth of all manufacturing establishments—employed only 3 per cent of the wage earners, and contributed 2.3 per cent of the value of products. The number of wage earners increased from 7,219 in 1909 to 8,166 in 1914, or 13.1 per cent, and the value of products increased from \$17,348,341 in 1909 to \$24,953,324 in 1914, or 43.8 per cent.

*Paper and wood pulp.*—In 1914 the manufacture of paper and wood pulp ranked seventh among the industries of the state in average number of wage earners

and eighth in value of products. There were 37 establishments reported for the industry, 28 of which produced paper only. During the five-year period 1909–1914 the average number of wage earners increased from 4,327 to 6,051, or 39.8 per cent; the value of products from \$13,922,124 to \$22,049,990, or 58.4 per cent; and the value added by manufacture from \$4,897,529 to \$7,505,045, or 53.2 per cent.

Kalamazoo is the leading city of the state in this industry, with a product in 1914 of \$7,093,440, or 32.2 per cent of the total reported for the state. The total value of paper produced in mills properly belonging to Kalamazoo (11.2 per cent of the total product for the state is produced just outside the corporate limits of the city) constitutes 43.4 per cent of the total for the state.

*Tobacco manufactures.*—This industry reported 626 establishments, of which 609 manufactured cigars; 8, smoking tobacco; and 9, chewing tobacco and snuff. Cigars constituted 58.7 per cent of the value of the products for the entire industry. Although there was a decrease of 103 in the number of establishments in the industry from 1909 to 1914, the average number of wage earners increased from 7,876 to 9,075, or 15.2 per cent, and the value of products, from \$16,178,533 to \$20,667,016, or 27.7 per cent. The industry is centered in Detroit, where more than four-fifths of the total value of the products for the state were reported in 1914.

*Brass, bronze, and copper products.*—This classification includes statistics for 64 establishments, 54 of which were primarily engaged in the manufacture of brass castings and brass goods; 3, bronze products; 5, copper products; 1, metal spinings; and 1, aluminum castings. Although there was a slight decrease in number of wage earners during the period 1909–1914, the value of products increased by \$2,978,505, or 21.4 per cent.

*Patent medicines and compounds and druggists' preparations.*—Michigan ranked second among the states in this industry as a whole and first in the manufacture of druggists' preparations. The number of wage earners in the industry increased from 3,249 in 1909 to 3,369 in 1914, or 3.7 per cent, and the value of products increased from \$13,475,456 to \$16,433,772, or 22 per cent. The manufacture of druggists' preparations employed 2,175 wage earners, and its products amounted to \$11,738,662 in 1914, which were 64.6 per cent and 71.4 per cent, respectively, of the corresponding totals for the entire industry.

*Chemicals.*—This industry owes its importance to the extensive salt deposits of the state. During the five-year period 1909–1914 the average number of wage earners engaged in the manufacture of chemicals increased by 1,335, or 42.1 per cent, and the value of products increased by \$1,001,209, or 7.8 per cent. Although the chemical industry ranked only seven-

teenth among the selected industries of the state, Michigan ranked fourth among the states in value of manufactured chemical products.

*Carriages and wagons and materials.*—Due principally to the remarkable development of the automobile industry, the manufacture of carriages and wagons and materials, which ranked fifth among the selected industries of the state in 1904, dropped to eighteenth in 1909 and to thirty-fifth in 1914. This industry gave employment to an average of 6,400 wage earners in 1904, as compared with 4,034 in 1909 and only 1,417 in 1914, and reported products valued at \$14,889,457 in 1904, as compared with \$10,158,883 in 1909 and only \$3,774,827 in 1914.

Michigan ranked high among the states in the manufacture of stoves and furnaces, corsets, salt, fur goods, show cases, wall plaster, essential oil, and in wood distillation, although these industries are not among the most important in the state. The manufacture of steel springs for cars and carriages; window shades and fixtures; wirework, including wire rope and cable; and the turning and carving of wood are not fully represented by the statistics presented in the table, because, to a large extent, they are interwoven with one or more other industries.

**Persons engaged in manufacturing industries.**—Table 3 shows, for 1914 and 1909, the number of persons engaged in manufactures, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

**Table 3**

Table 3	CLASS.	Cen- sus year.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.				
			Total.	Male.	Fe- male.	Per cent of total.	
						Male.	Fe- male.
All classes.....	1914	320,611	278,229	42,382	86.8	13.2	
	1909	271,071	231,915	39,156	85.6	14.4	
Proprietors and officials.....	1914	17,463	16,900	563	96.8	3.2	
	1909	16,996	16,434	562	96.7	3.3	
Proprietors and firm members....	1914	7,725	7,335	390	95.0	5.0	
	1909	8,965	8,564	401	95.5	4.5	
Salaried officers of corporations....	1914	3,572	3,471	101	97.2	2.8	
	1909	3,089	3,026	63	98.0	2.0	
Superintendents and managers....	1914	6,166	6,094	72	98.8	1.2	
	1909	4,942	4,844	98	98.0	2.0	
Clerks and other subordinate salaried employees.	1914	32,058	22,928	9,130	71.5	28.5	
	1909	22,576	16,183	6,393	71.7	28.3	
Wage earners (average number).....	1914	271,090	238,401	32,689	87.9	12.1	
	1909	231,499	199,298	32,201	86.1	13.9	
16 years of age and over.....	1914	269,519	237,496	32,023	88.1	11.9	
	1909	228,982	197,777	31,205	86.4	13.6	
Under 16 years of age.....	1914	1,571	905	666	57.6	42.4	
	1909	2,517	1,521	996	60.4	39.6	

The number of persons engaged in manufactures during 1914 was 320,611, of whom 271,090 were wage earners; 17,463, proprietors and officials; and 32,058 were clerks and other subordinate salaried employees. Of the wage earners 16 years of age and over, nearly nine-tenths were males. The largest number (32,689) of females reported was employed as wage earners, but the largest proportion (28.5 per cent) in the classes presented was reported as clerks and other subordinate salaried employees. Figures for the sex and age distribution of wage earners for individual industries will be found in Table 38.

Table 4 gives, for the several classes of persons engaged in manufactures, the percentages of increase from 1909 to 1914 and the per cent distribution at the two censuses.

**Table 4**

Table 4	CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
		Per cent of increase, <sup>1</sup> 1909-1914.			Per cent distribution.					
		Total.	Male.	Female.	Total.		Male.		Female.	
					1914	1909	1914	1909	1914	1909
All classes.....	18.3	20.0	8.2	100.0	100.0	100.0	100.0	100.0	100.0	
Proprietors and officials.....	2.7	2.8	0.2	5.4	6.3	6.1	7.1	1.3	1.4	
Proprietors and firm members.....	-13.8	-14.4	-2.7	2.4	3.3	2.6	3.7	0.9	1.0	
Salaried officers of corporations.....	15.6	14.7	.....	1.1	1.1	1.2	1.3	0.2	0.2	
Superintendents and managers.....	24.8	25.8	.....	1.9	1.8	2.2	2.1	0.2	0.3	
Clerks and other subordinate salaried employees.....	42.0	41.7	42.8	10.0	8.3	8.2	7.0	21.5	16.3	
Wage earners (average number).....	17.1	19.6	1.5	84.6	85.4	85.7	85.9	77.1	82.2	
16 years of age and over.....	17.7	20.1	2.6	84.1	84.5	85.4	85.3	75.5	79.7	
Under 16 years of age.....	-37.6	-40.5	-33.1	0.5	0.9	0.3	0.6	1.6	2.5	

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

Increases are shown for the five-year period in the total number and for the several classes of employees, with the exception of proprietors and firm members and wage earners under 16 years of age. The decrease in proprietors and firm members was referred to in the discussion of Table 1. The decrease of 37.6 per cent in wage earners under 16 years of age does not materially affect the employment of wage earners in the state, as the proportion which this class formed of the total

for all classes was only nine-tenths of 1 per cent in 1909 and only one-half of 1 per cent in 1914. The largest percentage of increase for both sexes, 42 per cent, is shown for clerks and other subordinate salaried employees. The average number of wage earners for both sexes combined shows an increase of 17.1 per cent from 1909 to 1914; in 1909 they formed 85.4 per cent of the total for all classes, and in 1914, 84.6 per cent.



In order to compare the distribution of persons engaged in manufactures in 1914 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See "Explanation of terms.") Table 5 makes this comparison according to occupational status.

CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
	Number.			Per cent distribution.			Per cent of increase. <sup>1</sup>		
	1914	1909	1904	1914	1909	1904	1909-1914	1904-1909	
Total.....	320,611	271,071	200,196	100.0	100.0	100.0	18.3	35.4	
Proprietors and firm members.....	7,725	8,965	7,732	2.4	3.3	3.9	-13.8	15.9	
Salaried employees.....	41,796	30,607	17,235	13.0	11.3	8.6	36.6	77.6	
Wage earners (average).....	271,090	231,499	175,229	84.6	85.4	87.5	17.1	32.1	

<sup>1</sup> A minus sign (-) denotes decrease.

This table shows an increase during the decade 1904 to 1914 and for both five-year periods for each of the several classes of employees, with the exception of proprietors and firm members, which shows a decrease from 1909 to 1914 and also for the decade. During the decade there were decreases in the proportions that proprietors and firm members and wage earners formed of the total number engaged in the manufactures of the state at each successive census, and a corresponding increase in the proportion of salaried employees.

The average number of wage earners employed and their per cent distribution as males 16 years of age and over, females 16 years of age and over, and children under 16 years of age, are given in Table 6 for 1914, 1909, and 1904. The table also shows, for some of the important industries separately, a similar distribution of wage earners for 1914 and 1909.

INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Per cent of total.		
			16 years of age and over.		Under 16 years of age.
			Male.	Female.	
All industries.....	1914	271,090	87.6	11.8	0.6
	1909	231,499	85.4	13.5	1.1
	1904	175,229	84.3	13.8	1.9
Agricultural implements.....	1914	2,143	99.6	.....	0.4
	1909	2,359	99.4	0.1	0.4
Automobiles, including bodies and parts.	1914	67,538	97.8	2.1	0.1
	1909	25,444	98.9	1.1	(2)
Boots and shoes.....	1914	2,035	61.6	36.8	1.6
	1909	2,455	58.5	35.1	6.4
Boxes, fancy and paper.....	1914	1,461	66.3	31.7	2.0
	1909	1,326	45.4	49.1	5.5
Brass, bronze, and copper products.....	1914	4,731	94.5	3.6	1.8
	1909	4,771	93.7	3.1	3.2
Bread and other bakery products.....	1914	4,014	79.6	19.6	0.7
	1909	2,637	80.0	18.2	1.8
Brick, tile, pottery, and other clay products.	1914	2,194	95.1	4.6	0.3
	1909	1,771	99.6	0.1	0.3
Butter, cheese, and condensed milk.....	1914	1,367	91.1	8.6	0.4
	1909	1,073	90.7	9.1	0.2
Canning and preserving.....	1914	2,507	44.3	54.4	1.2
	1909	2,073	47.1	51.1	1.8
Carriages and wagons and materials.....	1914	1,417	97.4	2.4	0.2
	1909	4,034	98.2	1.7	0.1

Table 6—Continued.

INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Percent of total.		
			16 years of age and over.		Under 16 years of age.
			Male.	Female.	
Cars and general shop construction and repairs by steam-railroad companies.	1914	5,803	100.0	.....	.....
	1909	5,401	99.8	0.1	0.2
Cement.....	1914	1,340	100.0	.....	.....
	1909	1,306	99.7	0.3	.....
Chemicals.....	1914	4,509	99.3	0.6	0.1
	1909	3,174	99.0	0.8	0.3
Clothing, men's, including shirts.....	1914	2,502	10.6	89.4	.....
	1909	3,580	12.5	87.5	.....
Clothing, women's.....	1914	1,672	6.2	92.4	1.4
	1909	2,194	7.0	92.2	0.8
Confectionery.....	1914	993	35.8	62.2	2.0
	1909	1,052	30.4	58.4	2.2
Cooperage and wooden goods, not elsewhere specified.	1914	1,967	71.5	27.2	1.3
	1909	2,642	86.8	12.1	1.1
Copper, tin, and sheet-iron products.....	1914	2,397	84.7	15.1	0.2
	1909	2,386	83.2	10.8	6.0
Corsets.....	1914	2,149	17.9	81.1	1.0
	1909	2,461	18.4	79.7	2.0
Electrical machinery, apparatus, and supplies.	1914	1,144	71.2	28.4	0.4
	1909	1,218	74.9	25.1	.....
Flour-mill and gristmill products.....	1914	1,370	97.2	2.3	0.5
	1909	1,530	98.8	0.9	0.3
Food preparations, not elsewhere specified.	1914	1,083	71.2	28.8	0.1
	1909	1,303	62.8	37.2	.....
Foundry and machine-shop products.....	1914	26,497	97.6	2.2	0.2
	1909	21,649	98.0	1.4	0.5
Furniture and refrigerators.....	1914	16,267	96.0	3.4	0.7
	1909	16,610	95.6	2.7	1.7
Gas, illuminating and heating.....	1914	2,349	99.8	0.2	.....
	1909	1,771	99.7	0.2	0.1
Hosiery and knit goods.....	1914	2,714	24.4	74.1	1.5
	1909	2,545	20.9	76.4	2.6
Iron and steel, blast furnaces.....	1914	991	100.0	.....	.....
	1909	1,016	99.9	0.1	.....
Leather, tanned, curried, and finished.....	1914	2,773	99.9	(2)	(2)
	1909	2,291	98.8	0.3	0.8
Liquors, malt.....	1914	2,097	98.8	0.9	0.4
	1909	1,527	99.1	0.9	.....
Lumber and timber products.....	1914	28,527	98.6	0.9	0.5
	1909	35,627	99.1	0.5	0.4
Musical instruments, pianos and organs and materials.	1914	1,070	97.1	2.9	.....
	1909	1,779	96.7	2.8	0.5
Paper and wood pulp.....	1914	6,051	84.7	15.3	(2)
	1909	4,327	82.3	17.7	.....
Patent medicines and compounds and druggists' preparations.	1914	3,369	61.4	37.5	1.1
	1909	3,249	50.7	47.9	1.4
Printing and publishing.....	1914	8,166	77.1	21.1	1.8
	1909	7,219	73.5	25.1	1.4
Salt.....	1914	1,434	93.2	6.8	.....
	1909	1,363	93.5	6.5	.....
Shipbuilding, including boat building.....	1914	1,261	99.8	0.2	0.1
	1909	2,344	99.7	0.3	.....
Slaughtering and meat packing.....	1914	1,181	99.4	0.6	.....
	1909	902	96.3	3.0	0.7
Stoves and furnaces, including gas and oil stoves.	1914	4,074	99.1	0.2	0.7
	1909	4,482	98.1	0.1	1.8
Sugar, beet.....	1914	1,326	99.5	0.5	.....
	1909	1,460	99.7	0.3	.....
Tobacco manufactures.....	1914	9,075	21.1	74.5	4.4
	1909	7,876	28.3	65.4	6.3
Wirework, including wire rope and cable, not elsewhere specified.	1914	1,314	92.6	6.7	0.7
	1909	909	89.3	9.0	1.7
All other industries.....	1914	33,618	85.9	13.6	0.5
	1909	36,363	82.6	16.4	1.0

<sup>1</sup> For method of estimating the distribution, by sex and age periods, of the average number for all industries combined, see "Explanation of terms."

<sup>2</sup> Less than one-tenth of 1 per cent.

## MANUFACTURES.

For all industries combined, the proportion of male wage earners 16 years of age and over has been greater at each successive census, while the proportions of females and of children under 16 have decreased.

Of the 41 industries for which separate figures are given in this table, 23 show an increased proportion of males and 23 an increased proportion of females, while but 13 show an increase in the proportion of children under 16 years of age. Four of the industries which gave employment to children in 1909 reported no children in 1914, while 4 others reported children in 1914 but none in 1909. There were 9 industries which reported no children employed in 1914.

The largest proportion of adult female wage earners were employed in the manufacture of women's clothing, where 92.4 per cent of the wage earners were

women over 16 years of age. Other industries showing a large proportion of female wage earners were men's clothing, 89.4 per cent; corsets, 81.1 per cent; tobacco, 74.5 per cent; hosiery and knit goods, 74.1 per cent; confectionery, 62.2 per cent; and canning and preserving, 54.4 per cent. In all other industries, over one-half of the wage earners were males 16 years of age and over. The largest proportion of children wage earners, 4.4 per cent, was reported for the tobacco manufactures industry, where the average number of children employed was 402.

Table 7 shows the average number and the per cent distribution of wage earners employed in each of the 27 cities having more than 10,000 inhabitants, classified according to age periods, and in the case of those 16 years of age and over, according to sex, for 1914, 1909, and 1904.

Table 7

## AVERAGE NUMBER OF WAGE EARNERS IN MANUFACTURING INDUSTRIES.

CITY.	16 years of age and over.									Per cent of total.											
	Total.			Male.			Female.			Under 16 years of age.			16 years of age and over.						Under 16 years of age.		
													Male.			Female.					
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904			
Adrian.....	1,256	1,059	.....	1,002	924	.....	249	118	.....	5	17	.....	79.8	87.3	.....	19.8	11.1	.....	0.4	1.6	.....
Alpena.....	1,494	1,432	1,245	1,460	1,403	1,205	33	27	29	1	2	11	97.7	98.0	96.8	2.2	1.9	2.3	0.1	0.1	0.9
Ann Arbor.....	842	573	549	747	535	431	93	38	105	2	.....	13	88.7	93.4	78.5	11.0	6.6	19.1	0.2	.....	2.4
Battle Creek.....	4,599	4,175	3,389	3,999	3,415	2,862	599	752	519	1	8	8	87.0	81.8	84.4	13.0	18.0	15.3	(1)	0.2	0.2
Bay City.....	3,771	4,737	4,456	3,355	4,263	4,173	386	441	234	30	33	49	89.0	90.0	93.6	10.2	9.3	5.3	0.8	0.7	1.1
Benton Harbor.....	1,285	.....	.....	1,098	.....	.....	187	.....	.....	.....	.....	.....	85.4	.....	.....	14.6	.....	.....	.....	.....	.....
Detroit.....	99,603	81,011	48,483	82,012	64,138	35,907	16,598	15,061	10,810	993	1,812	1,766	82.3	79.2	74.1	16.7	18.6	22.3	1.0	2.2	3.6
Escanaba.....	777	720	.....	615	595	.....	159	122	.....	3	3	.....	79.2	82.6	.....	20.5	16.9	.....	0.4	0.4	.....
Flint.....	8,722	7,088	2,161	8,349	6,775	1,960	366	312	191	7	1	10	95.7	95.6	90.7	4.2	4.4	8.8	0.1	(1)	0.5
Grand Rapids.....	17,427	17,590	15,514	14,622	15,157	13,411	2,748	2,320	1,931	57	113	172	83.9	86.2	86.4	15.8	13.2	12.4	0.3	0.6	1.1
Hancock.....	142	.....	.....	129	.....	.....	11	.....	.....	2	.....	.....	90.8	.....	.....	7.7	.....	.....	1.4	.....	.....
Holland.....	2,165	2,162	.....	1,877	1,951	.....	270	186	.....	18	25	.....	86.7	90.2	.....	12.5	8.6	.....	0.8	1.2	.....
Ironwood.....	516	201	.....	511	197	.....	5	4	.....	1	.....	.....	99.0	98.0	.....	1.0	2.0	.....	.....	.....	.....
Ishpeming.....	79	66	73	75	59	71	3	6	1	1	1	1	94.9	89.4	97.3	3.8	9.1	1.4	1.3	1.5	1.4
Jackson.....	4,906	4,788	3,967	4,019	3,754	2,772	867	1,023	1,170	20	11	25	81.9	78.4	69.9	17.7	21.4	29.5	0.4	0.2	0.6
Kalamazoo.....	5,525	6,272	5,666	4,253	4,390	4,041	1,233	1,844	1,568	39	38	57	77.0	70.0	71.3	22.3	29.4	27.7	0.7	0.6	1.0
Lansing.....	6,231	5,285	2,982	5,903	5,043	2,687	327	239	263	1	3	32	94.7	95.4	90.1	5.2	4.5	8.8	(1)	0.1	1.1
Manistee.....	1,853	2,125	2,084	1,471	1,806	2,009	365	300	28	17	13	47	79.4	85.0	96.4	19.7	14.4	1.3	0.9	0.6	2.3
Marquette.....	589	509	738	572	500	727	14	9	5	3	.....	6	97.1	98.2	98.5	2.4	1.8	0.7	0.5	.....	0.8
Menominee.....	1,988	1,700	1,489	1,725	1,530	1,387	223	148	76	40	22	26	86.8	90.0	93.1	11.2	8.7	5.1	2.0	1.3	1.7
Muskegon.....	4,046	4,522	3,078	3,960	3,871	2,437	640	615	529	46	36	112	85.2	85.6	79.2	13.8	13.6	17.2	1.0	0.8	3.6
Owosso.....	1,231	.....	.....	1,120	.....	.....	110	.....	.....	1	.....	.....	91.0	.....	.....	8.9	.....	.....	0.1	.....	.....
Pontiac.....	2,409	1,739	.....	2,336	1,629	.....	73	106	.....	.....	4	.....	97.0	93.7	.....	3.0	6.1	.....	.....	0.2	.....
Port Huron.....	1,296	1,580	2,136	1,045	1,435	1,907	251	142	227	.....	3	2	80.6	90.8	89.3	19.4	9.0	10.6	.....	0.2	0.1
Saginaw.....	6,342	5,368	4,445	5,479	4,637	3,897	847	706	489	16	25	59	86.4	86.4	87.7	13.4	13.2	11.0	0.3	0.5	1.3
Sault Ste. Marie.....	938	825	895	803	775	807	74	50	16	1	.....	12	92.0	93.9	96.9	7.9	6.1	1.8	0.1	.....	1.3
Traverse City.....	956	1,220	.....	712	1,102	.....	242	117	.....	2	1	.....	74.5	90.3	.....	25.3	9.6	.....	0.2	0.1	.....

<sup>1</sup> Less than one-tenth of 1 per cent.

<sup>2</sup> Includes statistics for West Bay City, which was annexed to Bay City in 1905.

<sup>3</sup> Figures do not agree with those published because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

The proportion of male wage earners 16 years of age and over is greatly in excess of that for females in every city, the smallest proportion being in Traverse City, where they formed 74.5 per cent of the total. In 10 cities, adult males constituted 90 per cent or more of the total, and in 8 cities, from 85 to 90 per cent. Only 3 cities, Traverse City, Kalamazoo, and Escanaba, reported 20 per cent or more female wage earners over 16 years of age in 1914. Eighteen cities reported an increase in the average number of wage earners in 1914

over 1909, while 6 cities—Bay City, Grand Rapids, Kalamazoo, Manistee, Port Huron, and Traverse City—show decreases. For 9 cities no figures are available for 1904. The cities, with the exception of Menominee and Ishpeming, show decreases for the decade in both number and proportion of wage earners under 16 years of age.

Table 8 gives percentages of increase from census to census, based on figures in Table 7, for cities where per cent of increase can be computed.

Table 8

PER CENT OF INCREASE IN AVERAGE NUMBER OF  
WAGE EARNERS.<sup>1</sup>

CITY.	Period.	Total.	16 years of age and over.		Under 16 years of age.
			Male.	Female.	
Adrian.....	1909-1914	18.6	8.4	111.0	.....
Alpena.....	1904-1914	20.0	21.2	.....	.....
	1909-1914	4.3	4.1	.....	.....
	1904-1909	15.0	16.4	.....	.....
Ann Arbor.....	1904-1914	53.4	73.3	-11.4	.....
	1909-1914	46.9	39.6	.....	.....
	1904-1909	4.4	24.1	-63.8	.....
Battle Creek.....	1904-1914	35.7	39.7	15.4	.....
	1909-1914	10.2	17.1	-20.3	.....
	1904-1909	23.2	19.3	44.9	.....
Bay City.....	1904-1914	-15.4	-19.6	65.0	.....
	1909-1914	-20.4	-21.3	-12.5	.....
	1904-1909	6.3	2.2	88.5	.....
Detroit.....	1904-1914	105.4	128.4	53.5	-43.8
	1909-1914	22.9	27.9	10.2	-45.2
	1904-1909	67.1	78.6	39.3	2.6
Escanaba.....	1909-1914	7.9	3.4	30.3	.....
Flint.....	1904-1914	303.6	326.0	91.6	.....
	1909-1914	23.1	23.2	17.3	.....
	1904-1909	228.0	245.7	63.4	.....
Grand Rapids.....	1904-1914	12.3	9.0	42.3	-66.9
	1909-1914	-0.9	-3.5	18.4	-49.6
	1904-1909	13.4	13.0	20.1	-34.3
Holland.....	1909-1914	0.1	-3.8	45.2	.....
Ironwood.....	1909-1914	156.7	159.4	.....	.....
Jackson.....	1904-1914	23.7	45.0	-25.9	.....
	1909-1914	2.5	7.1	-15.2	.....
	1904-1909	20.7	35.4	-12.6	.....
Kalamazoo.....	1904-1914	-2.5	5.2	-21.4	.....
	1909-1914	-11.9	-3.1	-33.1	.....
	1904-1909	10.7	8.6	17.6	.....
Lansing.....	1904-1914	109.0	119.7	24.3	.....
	1909-1914	17.9	17.1	36.8	.....
	1904-1909	77.2	87.7	-9.1	.....
Manistee.....	1904-1914	-11.1	-26.8	.....	.....
	1909-1914	-12.8	-18.5	19.3	.....
	1904-1909	2.0	-10.1	.....	.....
Marquette.....	1904-1914	-20.2	-21.3	.....	.....
	1909-1914	15.7	14.4	.....	.....
	1904-1909	-31.0	-31.2	.....	.....
Menominee.....	1904-1914	33.5	24.4	.....	.....
	1909-1914	16.9	12.7	50.7	.....
	1904-1909	14.2	10.3	.....	.....
Muskegon.....	1904-1914	50.9	62.5	21.0	-58.9
	1909-1914	2.7	2.3	4.1	.....
	1904-1909	46.9	58.8	16.3	-67.9
Pontiac.....	1909-1914	38.5	43.4	-31.1	.....
Port Huron.....	1904-1914	-39.3	-45.2	10.6	.....
	1909-1914	-18.0	-27.2	76.8	.....
	1904-1909	-26.0	-24.8	-37.4	.....
Saginaw.....	1904-1914	42.7	40.6	73.2	.....
	1909-1914	18.1	18.2	20.0	.....
	1904-1909	20.8	19.0	44.4	.....
Sault Ste. Marie.....	1904-1914	4.8	-0.5	.....	.....
	1909-1914	13.7	11.4	.....	.....
	1904-1909	-7.8	-10.6	.....	.....
Traverse City.....	1909-1914	-21.6	-35.4	106.8	.....

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

Detroit, by far the most important city in the state in respect to number of wage earners employed in 1914, reported an increase of 105.4 per cent in number of wage earners from 1904 to 1914. The number of wage earners under 16 years of age decreased by 43.8 per cent during the decade, while the proportion which this class formed of the total decreased from 3.6 per cent in 1904 to 1 per cent in 1914. Flint, where the principal industry is automobile manufacturing, re-

ported an increase in total number of wage earners of 303.6 per cent from 1904 to 1914 and 23.1 per cent from 1909 to 1914; Lansing shows an increase of 109 per cent from 1904 to 1914 and of 17.9 per cent from 1909 to 1914. Kalamazoo reported a decrease of 11.9 per cent for the period 1909-1914, while for the ten years from 1904 to 1914 a decrease of 2.5 per cent is reported. The decrease of 20.4 per cent from 1909 to 1914 in Bay City is largely due to the decline in planing-mill products.

**Wage earners employed, by months.**—The following table gives, for all industries combined, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

Table 9

WAGE EARNERS IN MANUFACTURING INDUSTRIES.

MONTH.	Number. <sup>1</sup>			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	273,067	211,679	165,269	96.8	84.6	90.0
February.....	277,824	218,230	167,441	98.5	87.3	91.1
March.....	282,176	223,087	169,583	100.0	89.2	92.3
April.....	281,040	222,273	172,322	99.6	88.9	93.8
May.....	278,103	226,811	180,731	98.6	90.7	95.4
June.....	269,532	229,058	183,707	95.5	91.6	100.0
July.....	268,399	232,023	178,153	95.1	92.8	97.0
August.....	274,164	235,804	176,583	97.2	94.3	96.1
September.....	273,866	240,310	179,584	97.1	96.1	97.8
October.....	270,454	241,912	181,868	95.8	96.7	99.0
November.....	254,678	246,729	177,239	90.3	98.7	96.5
December.....	249,777	250,078	170,268	88.5	100.0	92.7

<sup>1</sup> The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

For 1914 the spring months show the greatest activity of employment of wage earners in the combined industries of the state, the maximum number (282,176) of wage earners appearing for March, and the minimum number (249,777) for December. The year 1909 shows a very different condition, the maximum number being employed in December and the minimum number in January. In 1904 the maximum number was reported for June and the minimum number for January. The greatest difference between the maximum and minimum months of employment in any one of the three census years was 38,399, or 15.4 per cent of the maximum, in 1909.

Table 10 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for the combined industries of the state, for a number of selected industries, and for the total industries of each of the 27 cities having more than 10,000 inhabitants.

The total for the combined industries of the state and many of the important industries show great stability in the employment of wage earners, although in some of the industries there is a marked variation

in the number reported for the different months. The manufacture of beet sugar, a seasonal industry ranking eighteenth in value of products, shows the greatest degree of fluctuation, the number of wage earners in March being but 5.4 per cent of the number reported in October. Canning and preserving is also a seasonal industry, the number of wage earners in February being only 18.1 per cent of the number in September. The fluctuation of employment, however, in these two industries as well as the wide fluctuation in the shipbuilding, women's clothing, agricultural implements, and brick and tile industries are not

great enough to influence the steadiness of the total employment for all industries combined. The greatest stability of employment is shown for printing and publishing, coffins, burial cases and undertakers' goods, chemicals, and leather, tanned, curried, and finished, where the percentages which the minimum formed of the maximum were 96.6, 95.5, 95.3, and 95 per cent, respectively. The automobile industry, which reported nearly one-fourth of the total number of wage earners of the state, shows a fair degree of stability of employment, the percentage which the minimum formed of the maximum being 80.6.

Table 10

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by **boldface** figures and that of minimum by *italic* figures.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	271,090	273,067	277,824	<b>282,176</b>	281,040	278,103	269,532	268,399	274,164	273,866	270,454	254,678	<i>249,777</i>	88.5
Agricultural implements.....	2,143	2,379	2,588	<b>2,611</b>	2,488	2,383	2,387	2,473	2,130	<i>1,538</i>	1,343	1,704	1,892	61.2
Automobiles, including bodies and parts.....	67,538	70,793	72,626	<b>74,423</b>	73,785	69,085	60,926	<i>59,982</i>	67,164	69,521	69,020	61,111	62,020	80.6
Boots and shoes.....	2,035	2,297	2,226	<b>2,181</b>	1,902	1,888	1,932	2,113	2,162	2,072	1,881	<i>1,800</i>	1,903	78.4
Boxes, fancy and paper.....	1,461	1,477	<i>1,402</i>	1,503	1,453	1,448	1,456	1,428	1,431	1,459	1,431	1,470	<b>1,574</b>	89.1
Brass, bronze, and copper products.....	4,731	4,485	4,531	<b>4,986</b>	4,939	4,924	4,760	4,667	4,675	4,959	4,776	4,649	<i>4,421</i>	88.7
Bread and other bakery products.....	4,014	3,856	<i>3,849</i>	3,889	3,918	4,027	4,123	<b>4,180</b>	4,149	4,095	4,052	4,020	4,010	92.1
Brick, tile, pottery, and other clay products.....	2,194	<i>1,690</i>	1,743	1,941	2,241	<b>2,746</b>	2,704	2,599	2,564	2,435	2,172	1,862	<b>1,691</b>	59.4
Butter, cheese, and condensed milk.....	1,367	1,234	<i>1,221</i>	1,228	1,349	1,438	1,486	1,546	1,432	1,428	1,369	1,330	1,343	70.0
Canning and preserving.....	2,507	1,063	<i>965</i>	992	1,038	1,278	2,338	4,321	4,629	<b>5,323</b>	4,199	2,496	<i>1,442</i>	18.1
Carriages and wagons and materials.....	1,417	1,493	1,534	<b>1,550</b>	1,512	1,439	1,433	1,440	1,381	1,332	<i>1,273</i>	1,283	1,334	82.1
Cars and general shop construction and repairs by electric-railroad companies.....	885	872	878	889	886	896	<b>939</b>	926	876	<i>860</i>	861	865	872	91.6
Cars and general shop construction and repairs by steam-railroad companies.....	5,803	5,911	<i>5,457</i>	5,603	5,894	5,694	5,696	5,719	5,855	5,846	6,016	5,879	<b>6,086</b>	90.0
Cement.....	1,340	1,056	<i>972</i>	1,089	1,448	1,464	1,480	<b>1,502</b>	1,496	1,478	1,444	1,392	1,259	64.7
Chemicals.....	4,509	<b>4,619</b>	4,563	4,538	4,501	4,530	4,492	<i>4,408</i>	4,407	4,517	4,570	4,517	4,451	95.3
Clothing, men's, including shirts.....	2,502	2,765	<b>2,858</b>	2,778	2,668	2,462	2,410	<i>2,120</i>	2,255	2,316	2,417	2,449	<b>2,538</b>	74.2
Clothing, women's.....	1,672	<b>2,715</b>	2,641	2,144	2,001	1,486	1,268	<i>1,118</i>	1,176	1,289	1,389	1,387	1,455	41.0
Coffins, burial cases, and undertakers' goods.....	540	530	549	<b>552</b>	543	<i>528</i>	544	533	537	540	553	537	534	95.5
Confectionery.....	993	<i>907</i>	918	932	944	924	939	926	918	1,104	<b>1,148</b>	1,110	1,116	79.0
Cooperage and wooden goods, not elsewhere specified.....	1,967	2,046	<b>2,122</b>	1,987	2,012	<i>1,771</i>	1,930	1,990	2,010	2,057	1,983	1,868	<b>1,828</b>	83.5
Copper, tin, and sheet-iron products.....	2,397	2,496	<b>2,443</b>	2,547	<b>2,571</b>	2,481	2,491	2,368	2,274	2,379	2,407	2,205	<i>2,102</i>	81.8
Corsets.....	2,149	2,507	<b>2,612</b>	2,521	2,390	2,240	2,106	2,006	2,030	2,044	1,848	1,813	<i>1,671</i>	61.0
Electrical machinery, apparatus, and supplies.....	1,144	1,192	1,149	1,158	1,216	<b>1,252</b>	1,185	1,164	1,108	<i>1,096</i>	1,046	1,105	1,127	81.9
Flour-mill and gristmill products.....	1,370	1,396	1,404	1,392	1,333	1,316	<i>1,306</i>	1,329	1,346	1,398	1,410	1,404	1,406	92.6
Food preparations, not elsewhere specified.....	1,683	<i>1,327</i>	1,399	1,418	1,693	1,631	1,772	2,028	1,937	1,790	1,809	1,773	1,619	65.4
Foundry and machine-shop products.....	26,497	25,707	26,730	<b>28,263</b>	28,985	28,005	27,624	27,030	25,498	24,634	23,122	<i>23,100</i>	23,100	78.9
Furniture and refrigerators.....	16,267	16,884	17,482	<b>17,524</b>	16,921	16,426	16,017	16,014	15,991	<i>15,376</i>	15,471	15,559	15,536	87.7
Gas and electric fixtures and lamps.....	597	562	570	629	685	694	663	621	575	560	562	534	<i>509</i>	73.3
Gas, illuminating and heating.....	2,349	2,275	2,234	2,244	2,339	2,584	<b>2,591</b>	2,529	2,459	2,350	2,222	<i>2,167</i>	2,204	83.2
Hosiery and knit goods.....	2,714	<i>2,616</i>	2,664	2,679	2,688	2,747	2,750	2,802	2,651	2,770	<b>2,898</b>	2,706	2,667	92.5
Iron and steel, blast furnaces.....	991	1,175	1,193	1,081	1,146	1,055	1,063	895	921	889	886	<i>745</i>	843	62.4
Iron and steel, steel works and rolling mills.....	718	726	780	806	875	696	751	730	620	697	634	667	634	70.9
Iron and steel forgings.....	552	519	538	584	580	579	486	499	494	<i>484</i>	629	641	591	75.5
Leather goods.....	675	710	684	708	718	715	660	665	665	655	653	640	<i>627</i>	87.3
Leather, tanned, curried, and finished.....	2,773	2,789	<b>2,855</b>	2,832	2,768	2,747	2,772	2,819	2,748	2,726	<i>2,711</i>	2,751	2,758	95.0
Liquors, malt.....	2,097	1,946	<i>1,894</i>	1,933	2,040	2,151	2,371	2,340	2,291	2,165	2,040	1,993	2,000	79.9
Lumber and timber products.....	28,527	30,310	<b>31,012</b>	30,293	27,861	30,112	30,596	29,871	29,006	27,797	26,542	24,902	<i>24,022</i>	77.5
Musical instruments, pianos and organs and materials.....	1,070	1,119	1,102	<b>1,162</b>	1,122	1,070	1,040	1,039	1,043	1,092	1,033	<i>1,001</i>	1,017	86.1
Paper and wood pulp.....	6,051	5,910	<i>5,870</i>	6,028	5,955	6,074	6,083	6,095	6,089	6,060	<b>6,215</b>	6,111	6,122	94.4
Paper goods, not elsewhere specified.....	750	718	826	829	877	865	831	719	<i>539</i>	695	690	700	711	61.5
Patent medicines and compounds and druggists' preparations.....	3,369	3,424	3,440	<b>3,504</b>	3,481	3,393	3,252	<i>3,244</i>	3,292	3,330	3,371	3,373	3,324	92.6
Printing and publishing.....	8,166	8,105	8,238	<b>8,323</b>	8,263	8,176	8,094	8,093	8,039	8,120	8,178	8,149	8,214	96.6
Salt.....	1,434	1,329	<i>1,325</i>	1,345	1,450	1,426	1,390	1,428	1,364	1,546	<b>1,621</b>	1,563	1,421	81.7
Shipbuilding, including boat building.....	1,261	1,025	1,301	<b>1,562</b>	1,745	<b>1,783</b>	1,660	1,430	1,349	1,148	903	795	<i>431</i>	24.2
Slaughtering and meat packing.....	1,181	1,227	1,209	1,171	<i>1,087</i>	1,112	1,177	1,194	1,150	1,193	1,240	1,168	<b>1,244</b>	87.4
Springs, steel, car and carriage, not made in steel works or rolling mills.....	638	610	596	639	633	687	612	<i>498</i>	531	<b>758</b>	717	670	705	65.7
Stoves and furnaces, including gas and oil stoves.....	4,074	3,953	4,385	<b>4,540</b>	4,475	4,310	4,246	4,022	4,080	4,045	3,993	3,720	<i>3,119</i>	68.7

Table 10—Continued.

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by boldface figures and that of minimum by *italic* figures.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Sugar, beet.....	1,326	785	269	<i>249</i>	265	383	423	486	601	874	<b>4,585</b>	4,442	2,550	5.4
Tobacco manufactures.....	9,075	9,043	9,151	9,053	<i>8,491</i>	8,965	9,069	9,047	9,240	<b>9,320</b>	9,190	9,165	9,166	91.1
Wall plaster.....	631	560	593	659	718	686	685	648	644	642	588	595	644	75.8
Window shades and fixtures.....	702	<b>754</b>	721	706	691	684	686	700	704	<i>680</i>	704	705	689	90.2
Wirework, including wire rope and cable, not elsewhere specified.....	1,314	1,373	1,405	1,461	<b>1,463</b>	1,420	1,252	<i>1,183</i>	1,197	1,272	1,275	1,253	1,214	80.9
Wood distillation.....	645	647	633	618	627	630	638	<i>609</i>	702	672	667	647	650	86.8
Wood, turned and carved.....	576	670	650	696	631	626	542	606	554	496	484	<b>483</b>	<i>474</i>	68.1
All other industries.....	25,709	24,550	24,824	25,205	26,454	26,991	27,024	27,073	<b>27,623</b>	27,350	24,768	23,692	<i>22,954</i>	83.1
Total for cities.....	181,588	181,673	185,518	188,995	<b>189,291</b>	185,006	180,852	180,204	186,153	185,781	180,701	168,498	<i>166,784</i>	87.6
ADRIAN.....	1,256	1,305	1,377	1,415	<b>1,462</b>	1,389	1,257	<i>1,090</i>	1,156	1,132	1,173	1,191	1,125	74.6
ALPENA.....	1,494	1,449	1,592	1,599	1,519	1,593	1,572	<i>1,575</i>	1,542	1,439	1,345	1,330	1,373	83.2
ANN ARBOR.....	842	874	865	871	900	837	858	805	881	839	770	770	<i>748</i>	82.9
BATTLE CREEK.....	4,599	4,303	4,580	4,672	4,883	4,806	5,023	<b>5,442</b>	4,972	4,178	<i>3,024</i>	4,208	4,197	72.1
BAY CITY.....	3,771	<i>3,519</i>	3,532	3,730	3,930	3,975	3,941	3,952	3,834	3,837	3,766	3,705	3,531	88.5
BENTON HARBOR.....	1,285	<i>1,076</i>	1,093	1,231	1,300	1,340	1,388	1,434	1,408	1,373	1,243	1,243	1,136	75.0
DETROIT.....	99,603	100,568	103,200	<b>105,164</b>	105,129	102,649	98,220	97,682	102,167	101,747	97,923	90,968	<i>89,819</i>	85.4
ESCANABA.....	777	794	865	871	900	876	861	844	830	811	773	<i>694</i>	775	67.8
FLINT.....	8,722	8,830	8,744	8,894	8,442	<i>7,095</i>	7,265	8,804	10,148	10,308	9,024	7,797	8,413	68.8
GRAND RAPIDS.....	17,427	17,280	17,609	17,667	<i>17,454</i>	17,443	17,521	17,264	17,743	<b>17,893</b>	17,628	16,911	<i>16,711</i>	93.4
HANCOCK.....	142	<b>145</b>	141	141	143	142	141	142	141	<i>140</i>	142	143	143	96.6
HOLLAND.....	2,165	2,152	2,206	2,208	<i>1,986</i>	2,145	2,177	2,180	2,296	2,275	2,185	2,072	2,089	80.5
IRONWOOD.....	516	603	624	616	479	489	500	486	505	507	549	<i>385</i>	449	61.7
ISHPEMING.....	79	85	93	77	82	79	74	73	73	84	79	75	74	78.5
JACKSON.....	4,906	4,779	4,792	4,976	5,162	<b>5,479</b>	5,229	4,712	4,755	4,835	4,909	4,702	<i>4,542</i>	82.9
KALAMAZOO.....	5,525	5,688	5,879	<b>5,943</b>	5,880	5,619	5,548	5,422	5,442	5,437	5,266	<i>5,068</i>	5,110	85.2
LANSING.....	6,231	<i>5,703</i>	5,924	6,236	6,436	6,422	6,113	6,200	6,517	<b>6,572</b>	6,374	6,191	6,084	80.8
MANISTEE.....	1,853	<b>2,073</b>	2,066	2,071	1,977	1,995	1,995	1,842	1,568	1,691	1,759	1,715	<i>1,484</i>	71.6
MARQUETTE.....	589	565	572	583	603	595	622	<b>680</b>	654	609	557	546	<i>483</i>	70.9
MENOMINEE.....	1,988	2,014	<b>2,144</b>	2,108	2,047	1,950	1,930	1,864	2,035	1,970	2,135	1,950	<i>1,709</i>	79.7
MUSKEGON.....	4,646	4,651	4,660	4,653	4,848	4,903	<b>5,188</b>	4,814	4,461	4,346	4,387	<i>4,334</i>	4,447	83.5
OWOSSO.....	1,231	1,164	1,210	1,205	1,151	1,062	1,042	<i>1,036</i>	1,189	1,385	<b>1,613</b>	1,583	1,182	64.2
PONTIAC.....	2,409	2,544	2,700	2,809	<b>2,940</b>	2,935	2,357	1,870	2,100	2,677	2,474	2,061	<i>1,541</i>	52.4
PORT HURON.....	1,296	1,202	<i>1,116</i>	1,226	1,401	1,410	<b>1,542</b>	1,438	1,383	1,226	1,239	1,238	1,131	72.4
SAGINAW.....	6,342	6,419	6,282	<b>6,633</b>	6,546	6,443	6,576	6,583	6,369	6,395	6,256	5,906	<i>5,696</i>	85.9
SAULT STE. MARIE.....	938	<b>1,070</b>	1,020	894	<i>843</i>	989	982	997	909	888	897	859	848	78.8
TRAVERSE CITY.....	956	818	845	<i>708</i>	899	886	930	1,000	1,012	1,210	<b>1,212</b>	1,005	947	58.4

Of the 27 cities, Pontiac and Traverse City show much the greatest variation in the number of wage earners employed, the proportion that the minimum number formed of the maximum number for these two cities being 52.4 per cent and 58.4 per cent, respectively. The greatest stability of employment of wage earners was in Hancock and Grand Rapids, where the proportions that the minimum formed of the maximum were 96.6 per cent and 93.4 per cent, respectively.

**Prevailing hours of labor.**—In Table 11 the average number of wage earners reported for 1914 and 1909,

for all industries combined and for selected industries throughout the state, have been classified according to number of hours of labor per week prevailing in the establishments in which they were employed. A similar classification is given, for 1914 only, for all industries combined in each city having more than 10,000 inhabitants. The number employed in each establishment is classified as a total, even though a few employees worked a greater or smaller number of hours.

Table 11

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.								
		Total.	In establishments where the prevailing hours of labor per week were—							
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	1914	271,090	31,326	31,353	57,614	75,878	64,861	5,568	1,677	2,813
	1909	231,499	11,174	6,612	38,449	51,552	113,792	2,748	1,284	5,918
Agricultural implements.....	1914	2,143	199	411	788	411	334			
	1909	2,359			1,119	787	453			
Automobiles, including bodies and parts.....	1914	67,538	12,464	9,359	3,528	33,648	8,570			
	1909	25,444	2	17	4,775	7,086	13,504			
Boots and shoes.....	1914	2,035	115	20	1,402	232	266			
	1909	2,455	6	11	1,674	572	192			
Boxes, fancy and paper.....	1914	1,461	36	75	213	907	230			
	1909	1,326		12	499	470	345			

Table 11—Continued.

Table 11—Continued.		INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.								
				Total.	In establishments where the prevailing hours of labor per week were—							
					48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
Brass, bronze, and copper products.....	1914	4,731	14	143	1,360	1,977	1,237					
	1909	4,771		35	102	2,332	2,302					
Bread and other bakery products.....	1914	4,014	425	561	1,394	598	966	56	14			
	1909	2,637	128	120	702	195	1,211	201	52	28		
Brick, tile, pottery, and other clay products.....	1914	2,194	318	46	464	164	846	22		34		
	1909	1,771	378	66	130	94	1,103					
Butter, cheese, and condensed milk.....	1914	1,367	145	24	81	43	833	232	8			
	1909	1,073	145	13	27	44	750	68	26	1		
Canning and preserving.....	1914	2,507	395	11	607	384	1,081	29				
	1909	2,073	6		58	373	1,589	15	27	5		
Carriages and wagons and materials.....	1914	1,417	66	29	196	526	598		2			
	1909	4,034	55		53	2,105	1,321					
Cars and general shop construction and repairs by electric-railroad companies.....	1914	885		552	12	22	186	110		3		
	1909	574			360	19	190	2		3		
Cars and general shop construction and repairs by steam-railroad companies.....	1914	5,803	382	1,589	3,198	67	553	14				
	1909	5,401		642	1,460	1,905	1,276	118				
Cement.....	1914	1,340				100	500	359	131	250		
	1909	1,306					38	294		974		
Chemicals.....	1914	4,509	29	18	20	2,040	1,741	611		50		
	1909	3,174			2	1,426	35	174	96	1,441		
Clothing, men's, including shirts.....	1914	2,502	1,590	351	526	35						
	1909	3,580	2,224	79	809	429	39					
Clothing, women's.....	1914	1,672	77	1,070	525							
	1909	2,194	114	823	1,161	48	48					
Coffins, burial cases, and undertakers' goods.....	1914	540	2	2	117	254	165					
	1909	439			56	151	230					
Confectionery.....	1914	993	25	65	649	149	103	2				
	1909	1,052	39	2	462	225	318	4	2			
Cooperage and wooden goods, not elsewhere specified.....	1914	1,067	72	199	351	717	628					
	1909	2,642	252		27	17	2,346					
Copper, tin, and sheet-iron products.....	1914	2,397	105	947	818	181	346					
	1909	2,386	81	54	907	620	723	1				
Corsets.....	1914	2,149	13	1,236	900							
	1909	2,461	7	42	1,990	299	123					
Electrical machinery, apparatus, and supplies.....	1914	1,144	73	118	471	277	205					
	1909	1,218	4	26	236	310	642					
Flour-mill and gristmill products.....	1914	1,370	80	14	87	19	903	124	114	29		
	1909	1,530	115	33	11	10	1,219	85	57			
Food preparations, not elsewhere specified.....	1914	1,683	553	67	122	61	797	23		60		
	1909	1,303	5	17	34	127	834		279	7		
Foundry and machine-shop products.....	1914	26,497	832	2,374	6,872	12,821	3,596	2				
	1909	21,649	160	108	3,936	9,335	8,096	14				
Furniture and refrigerators.....	1914	16,267	645	2,104	6,041	3,044	4,433					
	1909	16,610	53	44	1,249	3,155	12,109					
Gas and electric fixtures and lamps.....	1914	597	7		47	542	1					
	1909	395		21	28	156	190					
Gas, illuminating and heating.....	1914	2,349			109	967	270	783	87	133		
	1909	1,771	1		22	49	779	353	46	521		
Hosiery and knit goods.....	1914	2,714	26	201	2,315	172						
	1909	2,545	8	308	807	756	666					
Iron and steel, blast furnaces.....	1914	991						433		558		
	1909	1,016						55		961		
Iron and steel, steel works and rolling mills.....	1914	718		121	79	457	61					
	1909	1,183				317	866					
Iron and steel forgings.....	1914	552		9	375	134	34					
	1909	307			242		65					
Leather goods.....	1914	675	5	181	127	251	111					
	1909	834			43	276	515					
Leather, tanned, curried, and finished.....	1914	2,773		11	972	563	1,227					
	1909	2,291				519	1,772					
Liquors, malt.....	1914	2,097	1,567	43	216	2	269					
	1909	1,527	605	8	378		423		113			
Lumber and timber products.....	1914	28,527	268	922	2,181	2,408	22,719	2		27		
	1909	35,627	341	263	721	1,762	32,413	124	3			
Musical instruments, pianos and organs and materials.....	1914	1,070		2	98	335	365	270				
	1909	1,779		1	51	1,106	621					
Paper and wood pulp.....	1914	6,051		278	1,016	623	1,482	1,514	1,104	34		
	1909	4,327				225	2,534	1,084	484			
Paper goods, not elsewhere specified.....	1914	750	3	28	357	10	286	66				
	1909	1,181	3	15	410	592	161					



Table 11—Continued.

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.								
		Total.	In establishments where the prevailing hours of labor per week were—							
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
Patent medicines and compounds and druggists' preparations.....	1914	3,369	77	2,761	380	132	19	—	—	—
	1909	3,249	71	580	2,161	357	79	1	—	—
Printing and publishing.....	1914	8,166	5,001	1,394	1,318	297	132	5	—	19
	1909	7,219	2,718	833	2,334	833	500	1	—	—
Salt.....	1914	1,434	12	—	40	565	536	46	114	121
	1909	1,363	15	—	99	9	1,173	9	4	54
Shipbuilding, including boat building.....	1914	1,261	98	30	730	14	389	—	—	—
	1909	2,344	2	3	85	1,093	1,161	—	—	—
Slaughtering and meat packing.....	1914	1,181	14	5	33	3	1,126	—	—	—
	1909	902	14	—	35	3	849	1	—	—
Springs, steel, car and carriage, not made in steel works or rolling mills.	1914	638	—	—	110	269	178	81	—	—
	1909	588	—	—	—	200	388	—	—	—
Stoves and furnaces, including gas and oil stoves.....	1914	4,074	5	724	2,432	290	623	—	—	—
	1909	4,482	255	671	60	1,180	2,316	—	—	—
Sugar, beet.....	1914	1,326	—	—	—	—	—	113	80	1,133
	1909	1,460	—	—	—	—	—	—	—	1,460
Tobacco manufactures.....	1914	9,075	3,468	1,751	2,429	1,392	23	12	—	—
	1909	7,876	2,509	1,173	1,854	1,981	356	3	—	—
Wallplaster.....	1914	631	3	25	123	—	480	—	—	—
	1909	746	—	—	38	1	648	—	59	—
Window shades and fixtures.....	1914	702	253	18	297	133	1	—	—	—
	1909	636	24	—	68	281	263	—	—	—
Wirework, including wire rope and cable, not elsewhere specified....	1914	1,314	3	12	129	701	469	—	—	—
	1909	909	—	21	232	259	397	—	—	—
Wood distillation.....	1914	645	—	—	—	—	167	245	—	233
	1909	806	—	—	—	6	345	88	—	367
Wood, turned and carved.....	1914	576	12	—	72	127	365	—	—	—
	1909	1,137	10	18	20	36	1,053	—	—	—
All other industries.....	1914	25,709	1,549	1,452	10,887	6,814	4,442	414	23	128
	1909	27,537	822	553	6,922	7,421	11,633	53	37	96
Total for cities.....	1914	181,588	16,508	28,869	45,659	58,219	29,026	1,823	966	518
ADRIAN.....	1914	1,256	28	31	179	279	695	11	3	30
ALPENA.....	1914	1,494	33	—	42	310	848	—	261	—
ANN ARBOR.....	1914	842	189	6	237	316	80	—	14	—
BATTLE CREEK.....	1914	4,599	870	492	1,478	709	1,042	8	—	—
BAY CITY.....	1914	3,771	237	184	1,249	497	1,462	100	42	—
BENTON HARBOR.....	1914	1,285	11	19	133	564	558	—	—	—
DETROIT.....	1914	99,603	9,702	20,735	20,248	35,419	12,804	398	119	178
ESCANABA.....	1914	777	67	12	224	343	127	4	—	—
FLINT.....	1914	8,722	157	341	406	7,568	146	102	2	—
GRAND RAPIDS.....	1914	17,427	1,721	2,484	9,048	1,997	1,911	266	—	—
HANCOCK.....	1914	142	53	—	28	—	47	14	—	—
HOLLAND.....	1914	2,165	232	27	939	409	490	—	—	68
IRONWOOD.....	1914	516	7	9	10	—	480	10	—	—
ISHPEMING.....	1914	79	14	3	10	—	52	—	—	—
JACKSON.....	1914	4,906	413	900	1,568	1,411	403	211	—	—
KALAMAZOO.....	1914	5,525	251	682	2,392	861	1,102	237	—	—
LANSING.....	1914	6,231	484	2,175	634	2,474	389	8	—	67
MANISTEE.....	1914	1,853	39	18	367	268	1,161	—	—	—
MARQUETTE.....	1914	589	291	7	92	14	185	—	—	—
MENOMINEE.....	1914	1,988	27	—	128	442	1,199	120	—	72
MUSKEGON.....	1914	4,646	581	301	2,587	378	444	72	283	—
OWOSSO.....	1914	1,231	70	—	71	345	625	25	15	80
PONTIAC.....	1914	2,409	58	14	257	1,785	214	67	—	14
PORT HURON.....	1914	1,296	279	185	185	91	327	2	222	5
SAGINAW.....	1914	6,342	607	238	2,982	586	1,767	184	—	—
SAULT STE. MARIE.....	1914	938	33	2	124	592	178	4	1	4
TRAVERSE CITY.....	1914	956	54	6	41	561	290	—	4	—

From this table it appears that there has been a general tendency to shorten the number of hours of labor for wage earners. The percentage distribution of wage earners, by the hours-per-week groups as given in the following tabular statement for 1914 and 1909, illustrates the change to shorter hours.

In 1914, 74,919, or 27.6 per cent, of the total wage earners worked in establishments operating 60 or more hours per week, as compared with 123,712, or 53.5 per cent, in this class of establishments in 1909.

PREVAILING HOURS OF LABOR PER WEEK.	PER CENT OF TOTAL NUMBER OF WAGE EARNERS.	
	1914	1909
48 and under.....	11.6	4.8
Between 48 and 54.....	11.6	2.9
54.....	21.3	16.6
Between 54 and 60.....	28.0	22.3
60.....	23.9	49.1
Between 60 and 72.....	2.1	1.2
72.....	0.6	0.6
Over 72.....	1.0	2.6

In 1909, for all industries combined and for many of them separately, the greatest number of wage earners in any one class was employed in establishments where the prevailing hours of labor were 60 per week, but in 1914 this condition appeared in establishments where the working hours were between 54 and 60. The number of wage earners whose working hours were under 54 per week increased from 17,786, or 7.7 per cent, in 1909 to 62,679, or 23.2 per cent, in 1914.

Of the wage earners employed in the lumber industry, 22,719, or 79.6 per cent, were in the establishments where the prevailing hours were 60 per week; in canning and preserving, 1,081, or 43.1 per cent, were in such establishments; in flour mills and grist-mills, 903, or 65.9 per cent; in slaughtering and meat packing, 1,126, or 95.3 per cent. The greatest reduction in the number of hours per week during the census period 1909-1914 was in the automobile industry. In this industry no wage earners were reported working more than 60 hours per week at either census. In 1909, 13,564 wage earners, or 53.3 per cent, were in establishments where the prevailing hours were 60

per week; 7,086, or 27.8 per cent, in establishments working between 54 and 60 hours; 4,775, or 18.8 per cent, 54 hours; 17, between 48 and 54 hours; and only 2, or less than one-tenth of 1 per cent, under 48 hours. In 1914 the numbers are nearly reversed—8,539, or 12.6 per cent, being in establishments working 60 hours; 33,648, or 49.8 per cent, between 54 and 60 hours; 3,528, or 5.2 per cent, 54 hours; 9,359, or 13.9 per cent, between 48 and 54 hours; and 12,464, or 18.5 per cent, under 48 hours.

Of the total number of wage earners in the 27 cities, the greatest number in any one class was employed in establishments where the prevailing hours were between 54 and 60 per week. In Battle Creek, Grand Rapids, Holland, Jackson, Kalamazoo, Muskegon, and Saginaw, a greater number of the wage earners was employed in establishments where the prevailing hours were 54 per week than in any other class.

**Location of establishments.**—Table 12 shows, for 1914, 1909, and 1899, the extent to which the manufactures in Michigan were centralized in the cities having more than 10,000 inhabitants.

Table 12

	Census year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 OR OVER.								DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 OR OVER.	
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.		Number or amount.	Per cent of aggregate.
			Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.		
Number of places.....	1914		27		17		8		2			
	1910		24		15		7		2			
	1900		18		13		4		1			
Population <sup>1</sup> .....	1914	2,976,030	1,203,341	40.4	220,868	7.4	321,596	10.8	660,877	22.2	1,772,689	59.6
	1910	2,810,173	1,043,746	37.1	203,817	7.3	261,592	9.3	578,337	20.6	1,766,427	62.9
	1900	2,420,982	681,312	28.1	199,771	8.3	195,837	8.1	285,704	11.8	1,739,670	71.9
Number of establishments.....	1914	8,724	4,731	54.2	846	9.7	1,255	14.4	2,630	30.1	3,993	45.8
	1909	9,159	4,500	49.1	817	8.9	1,123	12.3	2,560	27.9	4,659	50.9
	1899	7,310	2,892	39.6	773	10.6	860	11.8	1,259	17.2	4,418	60.4
Average number of wage earners.....	1914	271,090	181,588	67.0	19,816	7.3	44,742	16.5	117,030	43.2	89,502	33.0
	1909	231,489	150,747	67.7	20,433	8.8	37,713	16.3	98,601	42.6	74,752	32.3
	1899	155,800	84,805	54.4	21,274	13.7	25,158	16.1	38,373	24.6	70,995	45.6
Value of products.....	1914	\$1,086,162,432	\$698,097,162	64.3	\$66,049,374	6.1	\$181,907,676	16.7	\$450,140,112	41.4	\$388,065,270	35.7
	1909	685,109,169	465,201,235	67.9	52,798,619	7.7	117,232,598	17.1	295,170,018	43.1	219,907,934	32.1
	1899	319,691,856	178,124,393	55.7	43,156,684	13.5	46,601,785	14.6	88,365,924	27.6	141,567,463	44.3
Value added by manufacture.....	1914	493,361,368	313,407,742	63.5	26,834,982	5.4	82,676,454	16.8	203,896,306	41.3	179,953,626	36.5
	1909	316,497,147	225,647,464	71.3	23,980,450	7.6	56,458,253	17.8	145,216,761	45.9	90,849,683	28.7
	1899	143,725,728	85,008,397	59.1	22,296,278	15.5	21,353,692	14.9	41,358,427	28.8	58,717,331	40.9

<sup>1</sup> Census estimate of population for 1914.

In accepting the statistics in this table it must be remembered that three of the cities—Benton Harbor, Hancock, and Owosso—that had a population of 10,000 and over at the census of 1914 were included in the districts outside of the cities at prior censuses.

A comparison of the combined totals for the cities for 1914 with those for 1909 shows an increase in population, number of establishments, average number of wage earners, value of products, and value added by manufacture, a condition which also prevailed in the districts outside of the cities, with the exception of a decrease of 14.3 per cent in number of establishments. In 1914 the cities having over 10,000 inhabitants represented only 40.4 per cent of the estimated popu-

lation of the state, reported 54.2 per cent of the number of establishments, 67 per cent of the total average number of wage earners, 64.3 per cent of the total value of products, and 63.5 per cent of the value added by manufacture.

In 1900 Detroit was the only city in the state having over 100,000 inhabitants, but during the succeeding decade the population of Grand Rapids passed this figure, so that for 1909 and 1914 its statistics are included with those of Detroit in Table 12. In 1914 the group comprising the cities having between 25,000 and 100,000 inhabitants, which reported 16.7 per cent of the total value of the manufactured products of the state in that year, included Saginaw, Flint, Bay

City, Kalamazoo, Lansing, Jackson, Battle Creek, and Muskegon. In 1910 the population of Muskegon was less than 25,000, so that for 1909 the statistics for that city were included with those for the cities having between 10,000 and 25,000 inhabitants.

The group of cities having a population of between 10,000 and 25,000 was augmented in 1914 by the addition of Hancock, Benton Harbor, and Owosso, each of which had less than 10,000 inhabitants in 1909.

The relative importance in manufactures of each of the 27 cities having more than 10,000 inhabitants, as measured by average number of wage earners and by value of products, in 1914, 1909, and 1904, is shown in Table 13. The cities are listed in the order of their importance as shown by value of products. Those for which comparative figures are not shown for 1909 and 1904 had less than 10,000 inhabitants in those years.

**Table 13**

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1914	1909	1904	1914	1909	1904
Detroit.....	99,603	81,011	48,483	\$400,347,912	\$252,939,343	\$128,246,680
Flint.....	8,722	7,088	2,161	53,375,039	24,118,007	6,177,170
Grand Rapids.....	17,427	17,590	15,514	49,792,200	42,230,675	30,689,987
Lansing.....	6,231	5,285	2,982	26,984,496	16,567,093	6,887,415
Battle Creek.....	4,599	4,175	3,389	23,248,420	20,174,016	12,298,244
Kalamazoo.....	5,525	4,272	3,369	20,214,314	17,903,560	13,141,767
Saginaw.....	6,342	5,368	4,445	19,008,670	14,192,054	10,078,508
Jackson.....	4,906	4,788	3,967	16,809,846	13,984,121	8,348,125
Pontiac.....	2,409	1,739	.....	15,102,453	5,893,961	.....
Muskegon.....	4,646	4,522	3,078	11,147,605	9,647,823	6,319,441
Bay City.....	3,771	4,737	2,456	11,119,286	10,293,747	2,808,559
Holland.....	2,165	2,162	.....	8,683,835	5,802,043	.....
Adrian.....	1,256	1,059	.....	5,442,338	6,085,126	.....
Menominee.....	1,988	1,700	1,489	4,999,884	3,727,596	2,973,935
Manistee.....	1,853	2,125	2,084	4,136,210	3,344,087	3,256,601
Alpena.....	1,494	1,432	1,245	4,101,935	3,963,823	2,905,383
Port Huron.....	1,296	1,580	2,136	4,090,323	3,588,272	3,714,859
Sault Ste. Marie.....	938	1,825	895	3,821,464	3,729,117	2,412,481
Owosso.....	1,231	.....	.....	3,468,534	.....	.....
Benton Harbor.....	1,285	.....	.....	3,021,552	.....	.....
Ann Arbor.....	842	573	549	2,603,379	1,865,894	1,385,731
Traverse City.....	956	1,220	.....	2,251,484	2,289,150	.....
Escanaba.....	777	720	.....	1,506,526	1,074,109	.....
Marquette.....	589	1,509	738	1,394,587	1,277,828	2,364,081
Ironwood.....	516	201	.....	793,247	377,416	.....
Hancock.....	142	.....	.....	402,980	.....	.....
Ishpeming.....	79	66	73	228,643	132,374	246,882

<sup>1</sup> Figures do not agree with those published because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

<sup>2</sup> Includes statistics for West Bay City, which was annexed to Bay City in 1905.

Each city for which comparative figures are given, except Adrian and Traverse City, shows an increase in value of products from 1909 to 1914, and all, except Port Huron, Marquette, and Ishpeming, show increases from 1904 to 1909. There were decreases in the number of wage earners during the period 1909-1914 in Grand Rapids, Kalamazoo, Bay City, Manistee, Port Huron, and Traverse City.

Detroit is the leading manufacturing city of the state. The value of its manufactured products increased from \$252,939,343 in 1909 to \$400,347,912 in 1914, or 58.3 per cent, and the average number of wage earners, from 81,011 to 99,603, or 22.9 per cent. Notwithstanding the fact that the value of products increased 58.3 per cent, the proportion which Detroit contributed of the total value of the manufactured products of the state was the same in 1914 and 1909,

36.9 per cent, whereas in 1904 it was 29.9 per cent. The industries of the city gave employment to 36.7 per cent of the total number of wage earners in the manufacturing industries of the state in 1914, as compared with 35 per cent in 1909 and 27.7 per cent in 1904. Ranked by value of manufactured products, the city held fourth place in 1914 among the cities of the United States, as compared with sixth in 1909 and fourteenth in 1904. The leading industries of Detroit, arranged in the order of value of products, are indicated in the following tabular statement, which shows the absolute increase as well as per cent of increase between 1909 and 1914, and also the proportion which the value of products for each industry represents of the corresponding total for the state:

INDUSTRY.	VALUE OF PRODUCTS: 1914.			
	Amount.	Per cent of total for the industry in the state.	Increase over 1909.	
			Amount.	Per cent.
Automobiles, including bodies and parts.....	\$164,075,944	41.2	\$104,539,790	175.6
Foundry and machine-shop products.....	29,465,241	45.6	11,221,988	61.5
Slaughtering and meat packing.....	20,321,148	95.6	7,471,574	58.1
Tobacco manufactures.....	17,044,106	82.5	4,270,979	33.4
Brass, bronze, and copper products.....	14,629,751	86.7	2,332,420	19.0
Patent medicines and compounds and druggists' preparations.....	13,691,495	83.3	2,133,076	18.5
Printing and publishing.....	13,168,302	52.8	5,877,212	80.6
Liquors, malt.....	9,409,722	62.6	4,467,509	90.4

These eight industries in the aggregate represented 70.4 per cent of the total value of the manufactured products of the city and 25.9 per cent of the entire output of the state for all industries combined. The manufacture of automobiles, bodies, and parts was by far the most important industry in Detroit. The value of the output of the city in 1914 was 41.2 per cent of the state total for this industry.

In addition to the 74 industries presented separately for Detroit in Table 38, there were 108 others, which for various reasons were included in the group of "all other industries." Some of these industries were among the most important in the city, 9 of them having products in 1914 valued at more than \$1,000,000.<sup>1</sup>

Flint, which ranked third in value of products in 1909, was second in 1914. The city owes its rapid advance from tenth place in 1904 to the development of the automobile industry, which, taken in connection with the foundry and machine shops, accounts for over nine-tenths of the total value of products of the city. The value of the city's manufactured prod-

<sup>1</sup> These industries were as follows:

Cars, steam-railroad, not including operations of railroad companies.  
Cash registers and calculating machines.  
Corsets.  
Fertilizers.  
Flour-mill and gristmill products.  
Gas, illuminating and heating.  
Lamps.  
Rubber goods, not elsewhere specified.  
Steam fittings and steam and hot-water heating apparatus.

ucts was nearly nine times as great in 1914 as in 1904, and the average number of wage earners was more than four times as great. These increased ratios were greater than those for any other city of 10,000 population or over in the state.

Grand Rapids, the second manufacturing city in the state in 1909, ranked third in 1914. The value of its manufactured products increased from \$42,230,675 in 1909 to \$49,792,200 in 1914, or 17.9 per cent. The most important industry was the manufacture of furniture and refrigerators, Grand Rapids being the recognized center of the furniture and refrigerator industry in the United States. This industry, with products valued at \$14,940,141, contributed 30 per cent of the total value of the manufactured products of the city in 1914, and gave employment to 6,991, or 40.1 per cent, of the total number of wage earners reported for all manufacturing industries of the city. The value of products of the industry in the city represented 44.1 per cent, and the number of wage earners employed, 43 per cent of the corresponding totals for the industry in the state. There were 13 other important industries whose value of products exceeded \$1,000,000 each, among which may be mentioned the manufacture of bread and other bakery products; flour-mill and gristmill products; foundry and machine-shop products; malt liquors; leather, tanned, curried, and finished; printing and publishing; and lumber and timber products.

Lansing, which ranked sixth in value of products in 1909, was fourth in 1914. During this five-year period the value of the city's manufactured products increased from \$16,567,093 to \$26,984,496, or 62.9 per cent. The automobile industry, which was the important factor in the city's industrial advancement, contributed nearly two-thirds of the total manufactured products of the city. The manufacture of engines and foundry and machine-shop products were also important industries.

Battle Creek, although reporting an increase in value of manufactured products from \$20,174,016 in 1909 to \$23,248,420 in 1914, dropped from fourth place in importance in this respect in 1909 to fifth place in 1914. This city was one of the centers for the manufacture of food preparations, and was outranked only by New York City in this branch of manufacture. Other industries of importance in 1914 were the manufacture of agricultural implements, paper boxes, and foundry and machine-shop products.

Kalamazoo ranked fifth among the cities of the state in value of manufactured products in 1909 and sixth in 1914. The leading industries of the city were the manufacture of paper, foundry and machine-shop products, druggists' preparations, and printing and publishing.

In value of manufactured products, Saginaw ranked seventh both in 1909 and 1914. The leading indus-

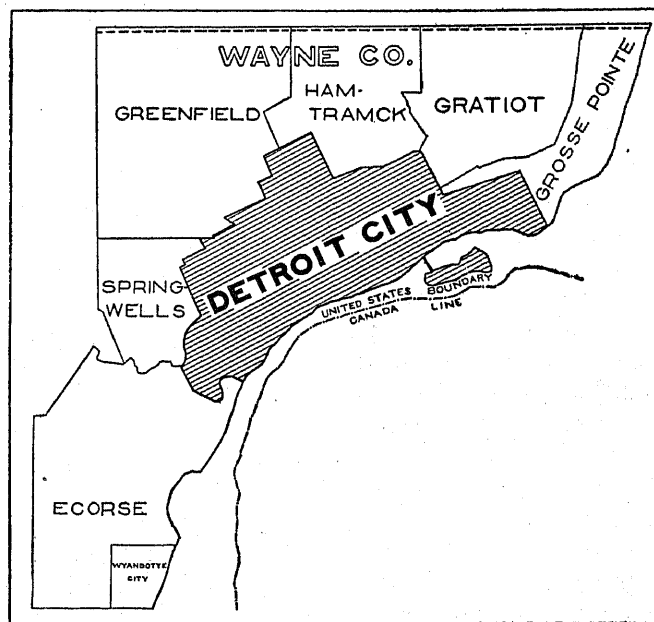
tries of the city were the manufacture of automobiles, including bodies and parts; cooperage and wooden goods; foundry and machine-shop products; leather, tanned, curried, and finished; and lumber and timber products.

The following tabular statement shows the principal industries, as measured by value of products, in the remaining cities in the state having 10,000 inhabitants or over, the cities being arranged according to value of products in 1914:

CITY.	Principal industries.
Jackson.....	Automobiles, including bodies and parts.
Pontiac.....	Automobiles, including bodies and parts, and steel springs.
Muskegon.....	Billiard tables and materials, engines, steam and gas, and furniture.
Bay City.....	Lumber and timber, and foundry and machine-shop products.
Holland.....	Leather, tanned, curried, and finished, and furniture.
Adrian.....	Wirework (woven-wire fencing).
Menominee.....	Lumber and timber products.
Manistee.....	Lumber and timber products.
Alpena.....	Cement, and leather, tanned, curried, and finished.
Port Huron.....	Liquors, malt.
Sault Ste. Marie.....	Leather, tanned, curried, and finished, and chemicals.
Owosso.....	Beet sugar.
Benton Harbor.....	Foundry and machine-shop products.
Ann Arbor.....	Foundry and machine-shop products.
Traverse City.....	Wooden goods.
Escanaba.....	Wooden goods.
Marquette.....	Cars and general shop construction and repairs by steam-railroad companies.
Ironwood.....	Lumber and timber products.
Hancock.....	Bread and other bakery products.
Ishpeming.....	Lumber, planing-mill products.

**Detroit metropolitan district.**—The metropolitan district of Detroit embraces 109,245 acres, of which 26,726 acres comprise the area of the city of Detroit. The estimated population of the city of Detroit on July 1, 1914, was 537,650 and that of the outlying territory, 61,529, the total for the district being 599,179.

The accompanying outline map of the district shows for 1914 the cities and townships that are included in the metropolitan district of Detroit:



*Summary for the district.*—Table 14 is a summary, for 1914, of the statistics of manufacturing industries,

with a statement of the estimated population in 1914 of the district, of the city of Detroit, and of the remainder of the district. The percentages which the figures for Detroit represent of the total for the district are shown for each item.

Table 14	DETROIT METROPOLITAN DISTRICT: 1914.			Per cent Detroit is of total for dis- trict.
	The district.	Detroit.	District exclusive of Detroit.	
Population <sup>1</sup> .....	599,179	537,650	61,529	89.7
Number of establishments.....	2,150	2,036	114	94.7
Persons engaged.....	147,714	120,075	27,639	81.3
Proprietors and firm members.....	1,605	1,540	65	96.0
Salaries and wages.....	21,471	18,932	2,539	88.2
Wage earners (average number).....	124,638	99,603	25,035	79.9
Primary horsepower.....	240,086	180,608	59,478	75.2
Capital.....	\$405,376,813	\$293,493,334	\$111,883,479	72.4
Salaries and wages.....	123,044,832	95,728,459	27,316,373	77.8
Salaries.....	30,469,449	26,281,700	4,187,749	86.3
Wages.....	92,575,383	69,446,759	23,128,624	75.0
Paid for contract work.....	5,193,942	1,580,608	3,613,334	30.4
Rent and taxes (including in- ternal revenue).....	9,690,126	8,748,403	941,723	90.3
Cost of materials.....	296,852,528	222,248,872	74,603,656	74.9
Value of products.....	569,519,227	400,847,912	169,171,315	70.3
Value added by manufacture (value of products less cost of materials).....	272,666,699	178,099,040	94,567,659	65.3

<sup>1</sup> Census estimate of population for 1914.

In 1914 there were 2,150 manufacturing establishments in the Detroit metropolitan district, which gave employment to 147,714 persons and paid out \$123,044,832 in salaries and wages. Of the persons employed, 124,638 were wage earners. Products valued at \$569,519,227 were reported, to produce which materials costing \$296,852,528 were used. The value added by manufacture was thus \$272,666,699. The great bulk of the value of products was reported by the factories within the central city. Detroit contained 89.7 per cent of the population of the district and contributed 70.3 per cent of the value of products. The manufacturing establishments constituted 94.7 per cent of the total number in the district and gave employment to 79.9 per cent of the wage earners.

A summary for the district, by industries, can not be shown for 1914, because so few industries reported for this district were located outside of the corporate limits of the city of Detroit. Of the industries included in the metropolitan district outside the city of Detroit, there were 10, each of which had a value of products of \$1,000,000 and over, as follows: Automobiles, including bodies and parts; chemicals; paints; foundry and machine-shop products; iron and steel, blast furnaces; brick and tile, terra-cotta, and fire-clay products; smelting and refining, not from the ore; shipbuilding, including boat building; cleansing and polishing preparations; and lumber and timber products.

*Comparison with 1909 census.*—Table 15 is a comparative summary of the statistics of the Detroit metropolitan district as a whole, for 1914 and 1909, together with the percentages of increase for the five-year period.

This table shows an increase in each item, with the exception of proprietors and firm members, during the five-year period 1909–1914. The population of the district increased 19.6 per cent, while the value of products increased 111.8 per cent. Although the number of establishments increased but 2.2 per cent, the number of wage earners employed increased 44.9 per cent.

Table 15	DETROIT METROPOLITAN DISTRICT.		Per cent of in- crease, <sup>1</sup> 1909– 1914.
	1914	1909	
Population.....	2 599,179	3 500,982	19.6
Number of establishments.....	2,150	2,104	2.2
Persons engaged.....	147,714	101,482	45.6
Proprietors and firm members.....	1,605	1,865	-13.9
Salaries and wages.....	21,471	15,596	37.9
Wage earners (average number).....	124,638	86,021	44.9
Primary horsepower.....	240,086	136,480	75.9
Capital.....	\$405,376,813	\$210,401,922	92.7
Salaries and wages.....	123,044,832	62,037,838	98.3
Salaries.....	30,469,449	16,028,377	90.1
Wages.....	92,575,383	46,009,461	101.2
Cost of materials.....	296,852,528	137,848,079	115.3
Value of products.....	569,519,227	268,899,761	111.8
Value added by manufacture (value of products less cost of materials).....	272,666,699	131,051,682	108.1

<sup>1</sup> A minus sign (—) denotes decrease.

<sup>2</sup> Census estimate of population for 1914.

<sup>3</sup> Apr. 15, 1910.

**Character of ownership.**—Table 16 presents statistics concerning character of ownership, or legal organization, of manufacturing enterprises. For all industries combined, comparative figures are given for 1914, 1909, and 1904; for selected industries, statistics for 1914 and 1909 are shown; and for individual cities the figures are for all industries combined and relate only to 1914. In order to avoid disclosing the operations of individual establishments, it is necessary to omit several important industries from the table.

For all industries combined, there was a considerable increase during the decade in the number of establishments under corporate ownership. The greatest proportion of the establishments—nearly one-half of the total in 1914—is shown for those under individual ownership, but in value of products and average number of wage earners, those owned by corporations greatly predominated. In 1914, although only 33.2 per cent of the total number of establishments in the state were under corporate ownership, this class reported 90.8 per cent of the total value of products and 89.2 per cent of the total average number of wage earners. In 1909 and 1904 the corresponding proportions were slightly less. The proportions of average number of wage earners and value of products reported by corporations have been greater at each successive census. For both 1914 and 1909, with a few exceptions, the largest proportion of the total value of products and average number of wage earners for each of the 16 industries, for which separate statistics are given, is shown for establishments under corporate ownership. This condition prevailed also in 1914 as regards all

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industries combined in each of the 27 cities, except Hancock, which shows but 42.3 per cent of value of products under corporate ownership. In Flint the proportion reported for this class was 98.2 per cent,

the largest reported for any of the cities shown. In the cities a greater proportion of the establishments are under corporate ownership than in the state as a whole.

Table 16

INDUSTRY AND CITY.	Cen- sus year.	AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
		NUMBER OF ESTABLISHMENTS OWNED BY—			In establishments owned by—			Per cent of total.			Of establishments owned by—			Per cent of total.					
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.			
All industries.....	1914	4,282	2,900	1,542	271,090	16,674	241,829	12,587	6.2	89.2	4.6	\$1,086,162,432	\$50,886,390	\$986,655,727	\$48,620,315	4.7	90.8	4.5	
	1909	4,567	2,638	1,954	231,499	20,564	193,139	17,796	8.9	83.4	7.7	685,109,169	57,652,930	571,102,107	56,354,132	8.4	83.4	8.2	
	1904	3,602	2,044	1,800	175,229	20,527	181,894	22,808	11.7	75.3	13.0	429,120,060	47,121,641	328,185,766	53,812,663	11.0	76.5	12.5	
Agricultural implements.	1914	8	18	4	2,143	96	2,027	20	4.5	94.6	0.9	7,731,217	273,131	7,390,617	67,469	3.5	95.6	0.9	
	1909	8	18	6	2,359	45	2,293	21	1.9	97.2	0.9	9,272,787	172,670	9,047,413	52,704	1.9	97.6	0.6	
Automobiles, including bodies and parts.	1914	32	166	7	67,538	151	67,252	135	0.2	99.6	0.2	398,289,022	520,618	397,394,128	374,276	0.1	99.8	(1)	
	1909	10	94	9	25,444	71	24,858	515	0.3	97.7	2.0	96,651,451	172,570	94,777,846	1,701,035	0.2	98.1	1.8	
Bread and other bakery products.	1914	755	29	138	4,014	2,041	1,492	481	50.8	37.2	12.0	16,000,068	8,017,664	5,936,037	2,046,367	50.1	37.1	12.8	
	1909	686	24	106	2,637	1,398	896	343	53.0	34.0	13.0	11,032,213	5,800,674	3,684,576	1,590,963	52.4	33.2	14.4	
Butter, cheese, and condensed milk.	1914	115	135	114	1,367	187	939	241	13.7	68.7	17.6	21,549,597	3,193,218	14,348,845	4,007,534	14.8	66.6	18.6	
	1909	131	118	186	1,073	189	518	366	17.6	48.3	34.1	14,287,499	2,986,902	5,531,195	5,769,402	20.9	38.7	40.4	
Carriages and wagons and materials.	1914	111	24	42	1,417	329	853	235	23.2	60.2	16.6	3,774,827	742,965	2,543,444	488,418	19.7	67.4	12.9	
	1909	124	36	52	4,034	348	3,172	514	8.6	78.6	12.7	10,158,883	714,140	8,509,476	935,267	7.0	83.8	9.2	
Chemicals.....	1914	11	21	4	4,509	12	4,493	4	0.3	99.6	(1)	13,891,415	26,300	13,858,241	6,874	0.2	99.8	(1)	
	1909	19	14	3	3,174	20	3,149	5	0.6	99.2	0.2	12,890,206	46,873	12,836,877	6,456	0.4	99.6	(1)	
Clothing, men's, including shirts.	1914	12	20	7	2,502	242	2,136	124	9.7	85.4	5.0	5,306,230	469,938	4,324,947	511,345	8.9	81.5	9.6	
	1909	11	15	14	3,580	290	2,831	459	8.1	79.1	12.8	6,532,331	381,319	5,037,376	1,113,636	5.8	77.1	17.0	
Flour-mill and gristmill products.	1914	203	83	141	1,370	332	731	307	24.2	53.4	22.4	27,381,474	5,609,028	16,384,336	5,388,110	20.5	59.8	19.7	
	1909	250	91	179	1,530	454	722	354	29.7	47.2	23.1	34,860,803	10,277,037	16,720,675	7,863,091	29.5	47.8	22.7	
Foundry and machine-shop products.	1914	221	373	111	26,497	1,319	24,267	911	5.0	91.6	3.4	64,576,497	3,089,084	59,503,773	1,983,640	4.8	92.1	3.1	
	1909	200	326	128	21,649	1,501	18,878	1,270	6.9	87.2	5.9	45,399,023	3,000,602	39,567,319	2,831,102	6.6	87.2	6.2	
Furniture and refrigerators.	1914	35	145	22	16,267	500	145	326	3.1	94.9	2.0	33,857,041	978,206	32,309,066	569,769	2.9	95.4	1.7	
	1909	38	137	27	16,610	537	15,480	593	3.2	93.2	3.6	28,641,684	928,794	26,714,986	997,904	3.2	93.3	3.5	
Liquors, malt.....	1914	9	54	7	2,097	68	1,839	190	3.2	87.7	9.1	15,041,247	341,182	13,200,121	1,499,944	2.3	87.8	10.0	
	1909	12	54	13	1,527	55	1,321	151	3.6	88.5	9.9	9,840,108	317,671	8,309,820	1,212,617	3.2	84.4	12.3	
Lumber and timber products.	1914	317	266	165	28,527	3,221	21,867	3,439	11.3	76.6	12.1	58,523,217	6,318,182	45,236,061	6,968,484	10.8	77.3	11.9	
	1909	580	289	311	35,627	5,570	24,375	5,682	15.6	68.4	15.9	61,513,500	9,868,776	41,947,997	9,696,787	16.0	68.2	15.8	
Printing and publishing.	1914	635	295	183	8,166	1,615	5,863	688	19.8	71.8	8.4	24,953,324	3,567,182	19,620,496	1,765,646	14.3	78.6	7.1	
	1909	598	233	214	7,219	1,805	4,908	688	25.0	63.8	11.2	17,348,341	3,198,694	12,469,990	1,679,657	18.4	71.9	9.7	
Shipbuilding, including boat building.	1914	42	11	9	1,261	175	904	146	13.9	74.5	11.6	2,822,557	336,488	2,486,069	351,205	11.9	75.6	12.4	
	1909	59	13	19	2,344	422	1,756	166	18.0	74.9	7.1	5,033,836	446,136	4,227,161	360,539	8.9	84.0	7.2	
Slaughtering and meat packing.....	1914	20	8	8	1,181	43	1,092	46	3.6	92.5	3.9	21,266,915	650,577	20,116,733	499,605	3.1	94.6	2.3	
	1909	26	7	12	902	103	727	72	11.4	80.6	8.0	13,435,114	1,199,986	11,063,531	1,171,597	8.9	82.3	8.7	
Tobacco manufactures...	1914	527	31	68	9,075	1,506	6,333	1,236	16.6	69.8	13.6	20,667,016	3,179,142	15,274,344	2,213,530	15.4	73.9	10.7	
	1909	605	33	91	7,876	1,925	5,157	794	24.4	65.5	10.1	16,178,533	3,338,052	11,337,784	1,502,697	20.6	70.1	9.3	
Total for cities.....	1914	2,126	1,859	746	181,588	10,030	163,902	7,656	5.5	90.3	4.2	698,097,162	29,190,996	637,519,398	31,386,768	4.2	91.3	4.5	
ADRIAN.....	1914	34	21	13	1,256	102	1,001	153	8.1	79.7	12.2	5,442,338	349,498	4,734,595	358,245	6.4	87.0	6.6	
ALPENA.....	1914	28	17	9	1,494	73	1,390	31	4.9	93.0	2.1	4,101,935	126,258	3,867,843	107,834	3.1	94.3	2.6	
ANN ARBOR.....	1914	38	19	18	842	134	593	115	15.9	70.4	13.7	2,603,379	352,540	1,761,742	489,097	13.5	67.7	18.8	
BATTLE CREEK.....	1914	64	52	19	4,599	180	3,523	896	3.9	76.6	19.5	23,248,420	630,058	13,734,003	8,884,359	2.7	59.1	38.2	
BAY CITY.....	1914	76	46	20	3,771	462	3,036	273	12.3	80.5	7.2	11,119,286	1,270,219	8,919,281	929,786	11.4	80.2	8.4	
BENTON HARBOR.....	1914	25	22	15	1,285	132	1,020	124	10.3	80.1	9.6	3,021,552	515,895	2,317,335	188,322	17.1	76.7	6.2	
DETROIT.....	1914	882	860	294	99,603	4,397	91,757	3,449	4.4	92.1	3.5	400,347,912	13,557,847	376,187,763	10,602,302	3.4	94.0	2.6	
ESCANABA.....	1914	23	13	9	777	53	680	44	6.8	87.5	5.7	1,506,526	111,140	1,303,913	91,473	7.4	86.5	6.1	
FLINT.....	1914	40	34	20	8,722	160	8,416	146	1.8	96.5	1.7	53,375,039	373,390	52,389,060	612,589	0.7	98.2	1.1	
GRAND RAPIDS.....	1914	267	231	96	17,427	1,431	15,207	789	8.2	87.3	4.5	49,792,200	3,871,624	43,765,942	2,154,634	7.8	87.9	4.3	
HANCOCK.....	1914	10	4	7	142	40	52	50	28.2	36.6	35.2	402,980	115,191	170,511	117,278	28.6	42.3	29.1	
HOLLAND.....	1914	16	34	11	2,165	55	2,057	53	2.5	95.0	2.4	8,683,835	130,243	8,281,748	271,844	1.5	95.4	3.1	
IRONWOOD.....	1914	13	6	5	516	39	443	34	7.6	85.9	6.6	793,247	153,662	545,045	94,540	19.4	68.7	11.9	
ISHPEMING.....	1914	13	2	4	79	31	248	44	39.2	60.8	.....	228,643	67,757	216,886	.....	29.6	70.4	.....	
JACKSON.....	1914	56	67	24	4,906	257	4,498	151	5.2	91.7	3.1	16,809,846	770,961	15,629,622	409,263	4.6	93.0	2.4	
KALAMAZOO.....	1914	96	84	33	5,525	420	4,948	157	7.6	89.6	2.8	20,214,314	1,048,046	18,785,086	381,182	5.2	92.9	1.9	
LANSING.....	1914	79	75	26	6,231	254	5,837	140	4.1	93.7	2.2	26,984,496	1,072,797	25,111,441	800,258	4.0	93.1	3.0	
MANISTEE.....	1914	23	17	7	1,853	91	1,634	78	4.9	90.9	4.2	4,136,210	201,789	3,776,401	158,020	4.9	91.3	3.8	
MARQUETTE.....	1914	21	10	3	589	77	487	25	13.1	82.7	4.2	1,394,587	146,318	1,176,671	71,598	10.5	84.4	5.1	
MENOMINEE.....	1914	24	23	5	1,988	136	1,802	50	6.8	90.6	2.5	4,999,884	308,750	4,458,901	232,233	6.2	89.2	4.6	
MUSKEGON.....	1914	47	44	12	4,646	328	4,281	37	7.1	147.0	0.8	11,147,605	1,007,375	10,050,450	89,780	9.0	90.2	0.8	
OWOSSO.....	1914	24	16	5	1,231	113	1,094	24	9.2	88.9	1.9	3,468,534	298,615	3,078,016	91,903	8.6	88.7	2.6	
PONTIAC.....	1914	14	20	12	2,409	49	2,286	74	2.0	94.9	3.1	15,102,453	324,293	14,471,015	307,145	2.1	95.8	2.0	
PORT HURON.....	1914	43	31	15	1,266	148	1,094	54	11.4	84.4	4.2	4,090,323	485,67						



**Size of establishments.**—The tendency for manufacturing to become concentrated in large establishments is indicated by the statistics given in Table 17.

Table 17 VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904
All classes.....	8,724	9,159	7,446	271,090	231,499	175,229	\$1,086,162,432	\$685,109,169	\$429,120,060	\$493,361,368	\$316,497,147	\$199,039,129
Less than \$5,000.....	2,976	3,372	2,634	3,154	3,906	3,791	7,254,892	7,821,328	6,522,567	4,561,300	4,914,568	4,054,535
\$5,000 to \$20,000.....	2,566	2,665	2,281	10,556	12,382	12,581	26,702,525	27,383,330	24,062,938	14,339,662	14,559,126	12,787,421
\$20,000 to \$100,000.....	1,914	1,999	1,683	30,078	35,706	37,031	87,746,430	90,330,115	75,963,984	40,538,674	41,918,104	37,856,618
\$100,000 to \$1,000,000.....	1,108	1,035	807	117,227	123,279	100,354	329,969,154	301,233,306	222,432,102	157,753,189	146,842,096	106,962,893
\$1,000,000 and over.....	160	88	41	110,075	56,226	21,472	634,489,431	258,341,090	100,138,469	276,168,543	108,263,253	37,377,662
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	34.1	36.8	35.4	1.2	1.7	2.2	0.7	1.1	1.5	0.9	1.6	2.0
\$5,000 to \$20,000.....	29.4	29.1	30.6	3.9	5.3	7.2	2.5	4.0	5.6	2.9	4.6	6.4
\$20,000 to \$100,000.....	21.9	21.8	22.6	11.1	15.4	21.1	8.1	13.2	17.7	8.2	13.2	19.0
\$100,000 to \$1,000,000.....	12.7	11.3	10.8	43.2	53.3	57.3	30.4	44.0	51.8	32.0	46.4	53.7
\$1,000,000 and over.....	1.8	1.0	0.6	40.6	24.3	12.3	58.4	37.7	23.3	56.0	34.2	18.8

For 1914, 1,268 establishments, or 14.5 per cent of the total number in the state, each reported products exceeding \$100,000 in value, as compared with 1,123, or 12.3 per cent of the total, for 1909, and 848, or 11.4 per cent, for 1904. For 1914 these establishments reported 83.8 per cent of the total average number of wage earners for the state, 88.8 per cent of the total value of products, and 88 per cent of the total value added by manufacture. In the same year the small establishments—those having products less than \$5,000—although representing 34.1 per cent of the total number of establishments, reported only 1.2 per cent of the total number of wage earners, seven-tenths

of 1 per cent of the total value of products, and nine-tenths of 1 per cent of the value added by manufacture. For the establishments having products valued at \$100,000 and over, the proportion of the total value of products shows an increase at each successive census, from 75.1 per cent in 1904 to 81.7 per cent in 1909 and 88.8 per cent in 1914.

Table 18 gives, for 1914 and 1909, for 16 of the more important industries, a classification of establishments, wage earners, value of products, and value added by manufacture, similar to that presented in Table 17 for all industries combined.

Table 18 INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.				AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
	1914		Per cent distribution.		1914		Per cent distribution.		1914		Per cent distribution.		1914		Per cent distribution.	
	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909
AGRICULTURAL IMPLEMENTS	30	32	100.0	100.0	2,143	2,359	100.0	100.0	\$7,731,217	\$9,272,787	100.0	100.0	\$5,091,259	\$6,382,634	100.0	100.0
Less than \$5,000.....	5	6	16.7	18.8	5	5	0.2	0.2	9,823	14,397	0.1	0.2	5,638	9,519	0.1	0.1
\$5,000 to \$20,000.....	5	10	16.7	31.2	32	59	1.5	2.5	46,091	104,443	0.6	1.1	26,122	62,113	0.5	1.0
\$20,000 to \$100,000.....	9	6	30.0	18.8	209	171	9.8	7.2	473,537	369,672	6.1	4.0	235,684	209,509	4.6	3.3
\$100,000 and over <sup>1</sup> .....	11	10	36.7	31.3	1,897	2,124	88.5	90.0	7,201,716	8,784,275	93.2	94.7	4,823,815	6,101,488	94.7	95.6
AUTOMOBILES, INCLUDING BODIES AND PARTS.....	205	113	100.0	100.0	67,538	25,444	100.0	100.0	398,289,022	96,651,451	100.0	100.0	179,073,627	42,769,030	100.0	100.0
Less than \$5,000.....	18	7	8.8	6.2	37	14	0.1	0.1	50,749	20,062	( <sup>2</sup> )	( <sup>2</sup> )	27,899	13,543	( <sup>2</sup> )	( <sup>2</sup> )
\$5,000 to \$20,000.....	26	14	12.7	12.4	133	78	0.2	0.3	366,649	149,312	0.1	0.2	177,233	51,043	0.1	0.1
\$20,000 to \$100,000.....	46	35	22.4	31.0	883	777	1.3	3.1	2,666,822	1,543,355	0.7	1.6	1,362,369	786,166	0.8	1.8
\$100,000 to \$1,000,000.....	65	41	31.7	36.3	7,792	6,005	11.5	23.6	22,777,262	16,527,352	5.7	17.1	10,188,916	8,492,259	5.7	19.9
\$1,000,000 and over.....	50	16	24.4	14.2	58,693	18,570	86.9	73.0	372,427,540	78,411,370	93.5	81.1	167,317,210	33,426,019	93.4	73.2
BREAD AND OTHER BAKERY PRODUCTS.....	922	816	100.0	100.0	4,014	2,637	100.0	100.0	16,000,068	11,082,213	100.0	100.0	6,691,971	4,411,614	100.0	100.0
Less than \$5,000.....	311	363	33.7	44.5	209	196	5.2	7.4	949,157	985,510	5.9	8.9	434,466	411,949	6.5	9.3
\$5,000 to \$20,000.....	474	359	51.4	44.0	1,164	811	29.0	30.8	4,632,098	3,356,822	28.9	30.3	1,974,465	1,340,055	29.5	30.4
\$20,000 to \$100,000.....	118	81	12.8	9.9	1,207	918	30.1	34.8	4,768,750	3,243,868	29.8	29.3	1,880,774	1,226,672	28.1	27.8
\$100,000 and over.....	119	13	2.1	1.6	1,434	712	35.7	27.0	5,650,063	3,496,013	35.3	31.5	2,402,266	1,432,938	35.9	32.5
BUTTER, CHEESE, AND CONDENSED MILK.....	364	435	100.0	100.0	1,367	1,073	100.0	100.0	21,549,597	14,287,499	100.0	100.0	3,087,094	1,910,697	100.0	100.0
Less than \$5,000.....	21	34	5.8	7.8	17	14	1.2	1.3	67,390	102,343	0.3	0.7	12,599	16,527	0.4	0.9
\$5,000 to \$20,000.....	100	166	27.5	38.2	118	162	8.6	15.1	1,365,082	2,054,246	6.3	14.4	194,323	296,219	6.3	15.5
\$20,000 to \$100,000.....	207	218	56.9	50.1	504	584	36.9	54.4	8,945,267	8,590,081	41.5	60.1	1,151,970	1,063,711	37.3	55.7
\$100,000 and over.....	136	17	9.9	3.9	1,728	313	58.3	29.2	11,171,858	3,540,829	51.8	24.8	1,728,202	534,240	56.0	28.0
CARRIAGES AND WAGONS AND MATERIALS.....	177	212	100.0	100.0	1,417	4,034	100.0	100.0	3,774,827	10,158,883	100.0	100.0	1,846,976	4,896,627	100.0	100.0
Less than \$5,000.....	97	106	54.8	50.0	122	122	8.6	3.0	252,819	257,940	6.7	2.5	179,330	168,562	9.7	3.4
\$5,000 to \$20,000.....	44	65	24.9	30.7	225	310	15.9	7.7	441,106	611,977	11.7	6.0	290,967	394,561	15.8	8.1
\$20,000 to \$100,000.....	26	19	14.7	9.0	348	415	24.6	10.3	863,554	931,216	22.9	9.2	464,575	445,362	25.1	9.1
\$100,000 and over.....	10	22	5.6	10.4	722	13,187	51.0	79.0	2,217,348	8,367,750	58.7	82.3	912,104	3,888,142	49.4	79.4

(See footnotes at end of table.)

## MANUFACTURES.

Table 18—Continued.

INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.				AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
	1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.	
			1914	1909			1914	1909			1914	1909			1914	1909
<b>CHEMICALS</b> .....	36	36	100.0	100.0	4,509	3,174	100.0	100.0	\$13,891,415	\$12,890,206	100.0	100.0	\$7,517,930	\$7,817,825	100.0	100.0
Less than \$5,000.....	16	20	44.4	55.6	21	16	0.5	0.5	32,486	36,830	0.2	0.3	23,280	26,160	0.3	0.3
\$5,000 to \$20,000.....	4	5	11.1	13.9	14	10	0.3	0.3	43,254	30,876	0.3	0.2	17,034	18,111	0.2	0.2
\$20,000 to \$100,000.....	11	3	30.6	22.2	366	652	8.1	20.5	2,154,746	2,460,303	15.5	19.1	952,007	1,425,901	12.7	18.2
\$100,000 and over.....	5	3	13.9	8.3	4,108	2,496	91.1	78.6	11,680,929	10,362,197	83.9	80.4	6,525,609	6,347,653	86.8	81.2
<b>CLOTHING, MEN'S, INCLUDING SHIRTS</b> .....	39	40	100.0	100.0	2,502	3,580	100.0	100.0	5,306,230	6,532,331	100.0	100.0	2,310,392	3,143,805	100.0	100.0
\$5,000 to \$20,000.....	15	10	38.5	25.0	82	72	3.3	2.0	138,481	97,877	2.6	1.5	80,710	53,858	3.5	1.7
\$20,000 to \$100,000.....	14	17	35.9	42.5	272	418	10.9	11.7	711,519	858,922	13.4	13.1	368,957	421,480	16.0	13.4
\$100,000 and over.....	10	13	25.6	32.5	2,148	3,090	85.9	86.3	4,456,230	5,575,532	84.0	85.4	1,860,719	2,608,467	80.5	81.9
<b>FLOUR-MILL AND GRIST-MILL PRODUCTS</b> .....	427	520	100.0	100.0	1,370	1,530	100.0	100.0	27,381,474	34,860,803	100.0	100.0	4,082,303	5,501,392	100.0	100.0
Less than \$5,000.....	45	39	10.5	7.5	27	20	2.0	1.3	134,169	109,662	0.5	0.3	30,535	17,068	0.7	0.3
\$5,000 to \$20,000.....	147	163	34.4	31.3	173	151	12.6	9.9	7,714,408	1,984,811	6.3	5.7	344,991	350,002	8.5	6.5
\$20,000 to \$100,000.....	188	257	44.0	49.4	457	532	33.4	38.0	7,787,576	11,369,606	28.4	32.6	1,294,361	1,941,702	31.7	35.3
\$100,000 to \$1,000,000.....	42	56	9.8	10.8	397	502	29.0	32.8	9,271,969	12,321,120	33.9	35.3	1,433,149	1,860,701	35.1	33.9
\$1,000,000 and over.....	5	5	1.2	1.0	316	275	23.1	18.0	8,473,352	9,075,604	30.9	26.0	970,267	1,310,819	24.0	23.9
<b>FOUNDRY AND MACHINE-SHOP PRODUCTS</b> .....	705	654	100.0	100.0	26,497	21,649	100.0	100.0	64,576,497	45,399,023	100.0	100.0	37,456,742	26,688,471	100.0	100.0
Less than \$5,000.....	177	161	25.1	24.6	208	195	0.8	0.9	473,571	382,955	0.7	0.8	345,923	269,894	0.9	1.0
\$5,000 to \$20,000.....	185	188	26.2	28.7	963	1,072	3.6	5.0	1,899,709	2,027,684	2.9	4.5	1,247,691	1,344,689	3.3	5.0
\$20,000 to \$100,000.....	198	194	28.1	29.7	4,075	4,539	15.4	21.0	9,390,370	9,254,081	14.5	20.4	5,761,531	5,473,522	15.4	20.5
\$100,000 to \$1,000,000.....	136	106	19.3	16.2	16,502	13,034	62.3	60.2	38,184,453	27,717,048	59.1	61.1	21,390,065	15,853,890	57.1	59.4
\$1,000,000 and over.....	9	5	1.3	0.8	4,749	2,809	17.9	13.0	14,628,394	6,017,255	22.7	13.3	8,711,532	3,746,576	23.3	14.0
<b>FURNITURE AND REFRIGERATORS</b> .....	202	202	100.0	100.0	16,267	16,610	100.0	100.0	33,857,041	28,641,684	100.0	100.0	19,495,818	16,023,456	100.0	100.0
Less than \$5,000.....	25	24	12.4	11.9	42	40	0.3	0.2	61,786	66,623	0.2	0.2	39,320	42,692	0.2	0.3
\$5,000 to \$20,000.....	32	31	15.8	15.3	164	217	1.0	1.3	328,425	342,083	1.0	1.2	204,387	209,509	1.0	1.2
\$20,000 to \$100,000.....	57	67	28.2	33.2	1,873	2,659	11.5	16.0	3,227,149	3,960,245	9.5	13.8	1,815,095	2,303,609	9.3	13.6
\$100,000 and over.....	88	80	43.6	39.6	14,188	13,694	87.2	82.4	30,239,681	24,272,733	89.3	84.7	17,437,016	14,368,272	89.4	84.9
<b>LIQUORS, MALT</b> .....	70	79	100.0	100.0	2,097	1,527	100.0	100.0	15,041,247	9,840,108	100.0	100.0	10,713,219	7,419,069	100.0	100.0
\$5,000 to \$20,000.....	8	16	11.4	20.3	27	41	1.3	2.7	84,006	153,658	0.6	1.6	55,108	105,434	0.5	1.5
\$20,000 to \$100,000.....	28	31	40.0	39.2	329	306	15.7	20.0	1,552,088	1,564,652	10.3	15.9	1,025,151	1,137,869	9.6	15.3
\$100,000 and over.....	34	32	48.6	40.5	1,741	1,180	83.0	77.3	13,405,153	8,121,798	89.1	82.5	9,632,960	6,175,766	89.9	83.2
<b>LUMBER AND TIMBER PRODUCTS</b> .....	748	1,180	100.0	100.0	28,527	35,627	100.0	100.0	58,523,217	61,513,560	100.0	100.0	29,167,209	32,471,918	100.0	100.0
Less than \$5,000.....	232	429	31.0	36.4	411	812	1.4	2.3	537,700	957,731	0.9	1.6	349,885	639,110	1.2	2.0
\$5,000 to \$20,000.....	169	332	22.6	28.1	1,139	2,554	4.0	7.2	1,832,040	3,615,249	3.2	5.7	1,137,679	2,114,914	3.9	6.5
\$20,000 to \$100,000.....	191	249	25.5	21.1	5,142	7,328	18.0	20.6	9,011,769	11,689,560	15.4	19.0	5,002,231	6,632,352	17.1	20.4
\$100,000 to \$1,000,000.....	153	167	20.5	14.2	19,920	23,351	69.8	65.5	42,703,695	41,219,996	73.0	67.0	21,223,343	21,361,305	72.8	65.8
\$1,000,000 and over.....	3	3	0.4	0.3	1,915	1,582	6.7	4.4	4,387,013	4,131,024	7.5	6.7	1,454,071	1,724,177	5.0	5.3
<b>PRINTING AND PUBLISHING</b> .....	1,113	1,045	100.0	100.0	8,166	7,219	100.0	100.0	24,953,324	17,348,341	100.0	100.0	17,455,196	12,413,815	100.0	100.0
Less than \$5,000.....	563	579	50.6	55.4	686	803	8.4	11.1	1,421,223	1,380,472	5.7	8.0	1,118,488	1,069,979	6.4	8.6
\$5,000 to \$20,000.....	368	316	33.1	30.2	1,566	1,577	19.2	21.8	3,409,566	2,898,592	13.7	16.7	2,581,647	2,189,911	14.8	17.6
\$20,000 to \$100,000.....	133	122	11.9	11.7	2,253	2,361	27.6	32.7	5,838,012	5,674,727	23.4	32.1	4,277,095	3,965,107	24.5	31.9
\$100,000 and over.....	49	28	4.4	2.7	3,661	2,478	44.8	34.3	14,284,523	7,494,650	57.2	43.2	9,477,366	5,188,818	54.3	41.6
<b>SHIPBUILDING, INCLUDING BOAT BUILDING</b> .....	62	91	100.0	100.0	1,261	2,344	100.0	100.0	2,822,557	5,033,836	100.0	100.0	1,563,814	2,544,004	100.0	100.0
Less than \$5,000.....	31	52	50.0	57.1	33	38	2.6	1.6	70,443	102,145	2.5	2.0	48,871	61,735	3.1	2.5
\$5,000 to \$20,000.....	17	21	27.4	23.1	65	101	5.2	4.3	166,843	197,958	5.9	3.9	101,373	117,093	6.5	4.6
\$20,000 to \$100,000.....	10	9	16.1	9.9	327	385	25.9	16.4	449,000	378,579	15.9	7.4	250,775	233,320	16.0	9.2
\$100,000 and over.....	4	9	6.5	9.9	836	1,820	66.3	77.6	2,136,271	4,360,154	75.7	86.6	1,162,795	2,128,916	74.4	83.7
<b>SLAUGHTERING AND MEAT PACKING</b> .....	36	45	100.0	100.0	1,181	902	100.0	100.0	21,266,015	13,435,114	100.0	100.0	1,983,717	1,769,289	100.0	100.0
Less than \$5,000.....	8	7	22.2	15.6	7	5	0.6	0.6	17,234	19,165	0.1	0.1	6,053	6,915	0.3	0.4
\$5,000 to \$20,000.....	4	10	11.1	22.2	8	20	0.7	2.2	52,293	102,927	0.2	0.8	11,845	33,095	0.6	1.9
\$20,000 to \$100,000.....	14	18	38.9	40.0	55	94	4.7	10.4	588,269	862,649	2.8	6.4	135,392	193,145	6.8	10.9
\$100,000 to \$1,000,000.....	6	7	16.7	15.6	58	139	4.9	15.4	1,713,755	2,860,928	8.1	21.3	133,167	394,833	6.7	22.3
\$1,000,000 and over.....	4	3	11.1	6.7	1,053	644	89.2	71.4	18,895,364	9,589,445	88.8	71.4	1,697,260	1,140,701	85.6	61.5
<b>TOBACCO MANUFACTURES</b> .....	626	729	100.0	100.0	9,075	7,876	100.0	100.0	20,667,016	16,178,533	100.0	100.0	11,703,664	8,970,598	100.0	100.0
Less than \$5,000.....	415	503	66.3	69.0	321	405	3.5	5.1	808,987	1,022,291	3.9	6.3	492,567	644,046	4.2	7.2
\$5,000 to \$20,000.....	153	167	24.4	22.9	835	935	9.2	11.9	1,406,078	1,545,615	6.8	9.6	867,290	985,201	7.3	11.0
\$20,000 to \$100,000.....	39	40	6.2	5.5	848	892	9.3	11.3	1,496,756	1,427,187	7.2	8.8	888,506	830,372	7.2	9.3
\$100,000 to \$1,000,000.....	14	16	2.2	2.2	2,728	3,246	30.1	41.2	4,809,932	5,439,938	23.3	33.6	2,628,075	2,993,482	22.5	33.4
\$1,000,000 and over.....	5	3	0.8	0.4	4,343	2,398	47.9	30.4	12,145,263	6,743,502	58.8	41.7	6,887,226	3,517,497	58.8	39.2

<sup>1</sup> Includes the group "1,000,000 and over."<sup>2</sup> Less than one-tenth of 1 per cent.<sup>3</sup> Includes the group "\$20,000 to \$100,000."<sup>4</sup> Includes the group "less than \$5,000."

For 1914, as compared with 1909, this table shows that for 5 of the 16 industries—automobiles, including bodies and parts, flour mills and gristmills, foundries and machine shops, furniture and refrigerators, and

slaughtering and meat packing—there were increases, and for the others, decreases in the number of establishments having products under \$5,000 in value.

Each of the industries, with the exception of bread and other bakery products in both years, and butter, cheese, and condensed milk and printing and publishing in 1909, shows that the great bulk of the manufacturing was done in establishments having products valued at \$100,000 and over. Ten of the industries, with establishments having products valued at over \$100,000, show increases in average number of wage earners, value of products, and value added by manufacture, while five others show decreases in each of these items. This class of establishments in the lumber and timber industry increased in value of products but decreased in the average number of wage earners and value added by manufacture. With the exception of agricultural implements, carriages and wagons, chemicals, men's clothing, and shipbuilding industries, the large establishments show a greater proportion of the average number of wage earners, value of products, and value added by manufacture for 1914 than for 1909.

In the automobile industry, establishments reporting products of \$1,000,000 and over in 1914 represented 86.9 per cent of the average number of wage earners engaged in the industry, 93.5 per cent of the value of products, and 93.4 per cent of the value added by manufacture.

Table 19 presents, for 1914, for all industries combined, in each of the 27 cities having more than 10,000 inhabitants, statistics similar to those given in Table 17 for the state as a whole.

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
ADRIAN.....	68	1,256	100.0	\$5,442,338	100.0	\$1,658,973	100.0
Less than \$5,000.....	30	20	1.6	57,498	1.1	38,088	2.3
\$5,000 to \$20,000.....	16	90	7.2	167,054	3.1	96,604	5.8
\$20,000 to \$100,000.....	13	293	23.3	744,103	13.7	398,563	24.0
\$100,000 and over <sup>1</sup> .....	9	853	67.9	4,473,683	82.2	1,125,718	67.9
ALPENA.....	54	1,494	100.0	4,101,935	100.0	1,704,102	100.0
Less than \$5,000.....	24	23	1.5	48,954	1.2	34,711	2.0
\$5,000 to \$20,000.....	15	92	6.2	152,247	3.7	81,053	4.8
\$20,000 to \$100,000.....	9	222	14.9	383,841	9.4	216,720	12.7
\$100,000 and over <sup>1</sup> .....	6	1,157	77.4	3,516,893	85.7	1,371,618	80.5
ANN ARBOR.....	75	842	100.0	2,603,379	100.0	1,301,816	100.0
Less than \$5,000.....	28	25	3.0	58,550	2.2	36,004	2.8
\$5,000 to \$20,000.....	25	112	13.3	278,884	10.7	178,504	13.7
\$20,000 to \$100,000.....	14	248	29.5	690,134	26.5	385,069	29.6
\$100,000 to \$1,000,000.....	8	457	54.3	1,575,811	60.5	702,239	53.9
BATTLE CREEK.....	135	4,599	100.0	23,248,420	100.0	15,090,220	100.0
Less than \$5,000.....	39	30	0.7	91,186	0.4	61,126	0.4
\$5,000 to \$20,000.....	46	146	3.2	434,418	1.9	265,066	1.8
\$20,000 to \$100,000.....	32	415	9.0	1,374,105	5.9	766,904	5.1
\$100,000 to \$1,000,000.....	14	2,083	45.3	5,563,217	23.9	2,988,811	19.8
\$1,000,000 and over.....	4	1,925	41.9	15,785,494	67.9	11,008,313	72.9
BAY CITY.....	142	3,771	100.0	11,119,286	100.0	4,715,881	100.0
Less than \$5,000.....	36	29	0.8	81,867	0.7	46,393	1.0
\$5,000 to \$20,000.....	48	202	5.4	428,395	3.9	223,267	4.7
\$20,000 to \$100,000.....	26	437	11.6	1,324,155	11.9	625,360	13.3
\$100,000 to \$1,000,000.....	32	3,103	82.3	9,284,869	83.5	3,820,861	81.0
BENTON HARBOR.....	62	1,285	100.0	3,021,552	100.0	1,811,513	100.0
Less than \$5,000.....	17	30	2.3	45,415	1.5	28,224	1.6
\$5,000 to \$20,000.....	21	96	7.5	229,583	7.6	104,875	5.8
\$20,000 to \$100,000.....	19	423	32.9	959,009	31.7	515,429	28.5
\$100,000 to \$1,000,000.....	5	736	57.3	1,787,545	59.2	1,162,985	64.2

<sup>1</sup>Includes the group "\$1,000,000 and over."

Table 19—Continued.

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
DETROIT.....	2,036	99,603	100.0	\$400,347,912	100.0	\$178,099,040	100.0
Less than \$5,000.....	485	423	0.4	1,205,212	0.3	781,741	0.4
\$5,000 to \$20,000.....	628	2,568	2.6	6,616,863	1.7	3,982,430	2.2
\$20,000 to \$100,000.....	531	8,748	8.8	25,466,751	6.4	13,648,414	7.7
\$100,000 to \$1,000,000.....	314	30,809	30.9	90,555,696	22.6	46,237,407	26.0
\$1,000,000 and over.....	78	57,055	57.3	276,503,390	69.1	113,449,048	63.7
ESCANABA.....	45	777	100.0	1,506,526	100.0	870,829	100.0
Less than \$5,000.....	17	24	3.1	40,844	2.7	29,878	3.4
\$5,000 to \$20,000.....	18	92	11.8	173,888	11.5	109,110	12.5
\$20,000 to \$100,000.....	6	71	9.1	237,324	15.8	114,913	13.2
\$100,000 to \$1,000,000.....	4	590	75.9	1,054,470	70.0	616,928	70.8
FLINT.....	94	8,722	100.0	53,375,039	100.0	19,042,065	100.0
Less than \$5,000.....	27	42	0.5	78,055	0.1	47,303	0.2
\$5,000 to \$20,000.....	32	162	1.9	341,035	0.6	206,158	1.1
\$20,000 to \$100,000.....	15	243	2.8	612,714	1.1	324,449	1.7
\$100,000 and over <sup>1</sup> .....	20	8,275	94.9	52,343,235	98.1	18,464,155	97.0
GRAND RAPIDS.....	594	17,427	100.0	49,792,200	100.0	25,797,266	100.0
Less than \$5,000.....	183	197	1.1	464,164	0.9	313,723	1.2
\$5,000 to \$20,000.....	167	695	4.0	1,709,002	3.4	1,010,025	3.9
\$20,000 to \$100,000.....	131	2,494	14.3	5,968,773	12.0	3,285,800	12.7
\$100,000 to \$1,000,000.....	105	11,700	67.1	31,422,104	63.1	16,327,968	63.3
\$1,000,000 and over.....	8	2,341	13.4	10,228,157	20.5	4,859,750	18.8
HANCOCK.....	21	142	100.0	402,980	100.0	213,291	100.0
Less than \$5,000.....	6	3	2.1	15,401	3.8	6,021	2.8
\$5,000 to \$20,000.....	9	52	36.6	101,269	25.1	54,584	25.6
\$20,000 to \$100,000.....	6	87	61.3	286,310	71.0	162,686	71.6
HOLLAND.....	61	2,165	100.0	8,683,835	100.0	2,841,161	100.0
Less than \$5,000.....	16	16	0.7	44,522	0.5	30,391	1.1
\$5,000 to \$20,000.....	17	76	3.5	188,700	2.2	132,876	4.4
\$20,000 to \$100,000.....	14	258	11.9	809,045	9.3	325,296	11.4
\$100,000 and over <sup>1</sup> .....	14	1,815	83.8	7,641,568	88.0	2,361,598	83.1
IRONWOOD.....	24	516	100.0	793,247	100.0	379,149	100.0
Less than \$5,000.....	4	7	1.4	13,781	1.7	8,979	2.4
\$5,000 to \$20,000.....	16	77	14.5	177,155	22.3	97,727	26.0
\$20,000 and over <sup>2</sup> .....	4	432	83.7	602,311	75.9	281,443	71.6
ISHPEMING.....	19	79	100.0	228,643	100.0	92,715	100.0
Less than \$5,000.....	10	13	16.5	24,230	10.6	13,145	14.2
\$5,000 and over <sup>2</sup> .....	9	66	83.5	204,413	89.4	79,570	85.8
JACKSON.....	147	4,906	100.0	16,809,846	100.0	7,280,567	100.0
Less than \$5,000.....	31	48	1.0	97,305	0.6	60,559	0.8
\$5,000 to \$20,000.....	40	166	3.4	390,210	2.3	222,832	3.1
\$20,000 to \$100,000.....	46	847	17.3	2,211,404	13.2	1,067,435	14.7
\$100,000 to \$1,000,000.....	26	2,822	57.5	8,834,553	52.6	4,183,250	57.5
\$1,000,000 and over.....	4	1,023	20.9	5,276,374	31.4	1,746,461	24.0
KALAMAZOO.....	213	5,525	100.0	20,214,314	100.0	9,267,098	100.0
Less than \$5,000.....	69	75	1.4	154,603	0.8	88,645	1.0
\$5,000 to \$20,000.....	64	307	5.6	685,821	3.4	390,595	4.2
\$20,000 to \$100,000.....	44	720	13.0	2,009,567	9.9	1,102,606	11.9
\$100,000 and over <sup>1</sup> .....	36	4,423	80.1	17,364,323	85.9	7,685,252	82.9
LANSING.....	180	6,231	100.0	26,984,496	100.0	13,097,543	100.0
Less than \$5,000.....	48	56	0.9	124,632	0.5	84,700	0.6
\$5,000 to \$20,000.....	57	259	4.2	664,089	2.5	382,620	2.9
\$20,000 to \$100,000.....	41	593	9.5	1,772,657	6.6	852,638	6.5
\$100,000 and over <sup>1</sup> .....	34	5,323	85.4	24,423,118	90.5	11,777,579	89.9
MANISTEE.....	47	1,853	100.0	4,136,210	100.0	2,132,136	100.0
Less than \$5,000.....	12	25	1.3	64,883	1.6	32,336	1.5
\$5,000 to \$20,000.....	17	74	4.0	165,048	4.0	99,430	4.7
\$20,000 to \$100,000.....	10	270	14.6	525,801	12.7	210,338	9.9
\$100,000 to \$1,000,000.....	8	1,484	80.1	3,380,388	81.7	1,790,032	84.0
MARQUETTE.....	34	580	100.0	1,394,587	100.0	716,331	100.0
Less than \$5,000.....	13	22	3.7	33,668	2.4	19,844	2.8
\$5,000 to \$20,000.....	10	45	8.1	87,540	6.3	54,007	7.5
\$20,000 to \$100,000.....	6	84	14.3	234,047	16.8	149,575	20.9
\$100,000 to \$1,000,000.....	5	435	73.9	1,039,332	74.5	492,905	68.8
MENOMINEE.....	52	1,988	100.0	4,999,884	100.0	2,344,377	100.0
Less than \$5,000.....	11	15	0.8	26,550	0.5	16,086	0.7
\$5,000 to \$20,000.....	16	85	4.3	170,790	3.4	89,779	3.8
\$20,000 to \$100,000.....	10	140	7.0	400,938	8.0	153,322	6.5
\$100,000 to \$1,000,000.....	15	1,748	87.9	4,401,606	88.0	2,085,190	88.9
MUSKEGON.....	103	4,646	100.0	11,147,605	100.0	5,830,393	100.0
Less than \$5,000.....	24	22	0.5	59,486	0.5	37,766	0.6
\$5,000 to \$20,000.....	33	179	3.9	345,775	3.1	204,219	3.5
\$20,000 to \$100,000.....	23	413	8.9	1,161,243	10.4	482,116	8.3
\$100,000 and over <sup>1</sup> .....	23	4,032	86.8	9,581,101	85.9	5,106,292	87.6

<sup>2</sup> Includes the group "\$100,000 to \$1,000,000."

**Table 19—Continued.**

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
OWOSSO.....	45	1,231	100.0	\$3,468,534	100.0	\$1,617,533	100.0
Less than \$5,000.....	8	6	0.5	20,596	0.6	14,602	0.9
\$5,000 to \$20,000.....	16	62	5.0	160,717	4.6	87,888	5.4
\$20,000 to \$100,000.....	13	146	11.9	530,086	15.3	217,916	13.5
\$100,000 to \$1,000,000.....	8	1,017	82.6	2,757,135	79.5	1,297,127	80.2
PONTIAC.....	46	2,409	100.0	15,102,453	100.0	4,653,063	100.0
Less than \$5,000.....	7	12	0.5	20,950	0.1	2,877	0.1
\$5,000 to \$20,000.....	13	41	1.7	134,704	0.9	79,308	1.7
\$20,000 to \$100,000.....	17	192	8.0	799,463	5.3	374,125	8.0
\$100,000 to \$1,000,000.....	4	426	17.7	1,588,769	10.5	619,363	13.3
\$1,000,000 and over.....	5	1,738	72.1	12,558,567	83.2	3,577,390	76.9
PORT HURON.....	89	1,296	100.0	4,090,323	100.0	1,863,577	100.0
Less than \$5,000.....	24	23	1.8	68,588	1.7	44,579	2.4
\$5,000 to \$20,000.....	26	91	7.0	238,036	5.8	137,249	7.4
\$20,000 to \$100,000.....	27	380	29.3	1,207,773	29.5	588,071	32.1
\$100,000 to \$1,000,000.....	12	802	61.9	2,575,926	63.0	1,083,678	58.2
SAGINAW.....	241	6,342	100.0	19,008,670	100.0	8,352,687	100.0
Less than \$5,000.....	74	70	1.1	189,571	1.0	123,862	1.5
\$5,000 to \$20,000.....	68	335	5.3	773,355	4.1	454,430	5.4
\$20,000 to \$100,000.....	49	926	14.6	2,389,965	12.6	1,123,391	13.4
\$100,000 and over <sup>1</sup> .....	50	5,011	79.0	15,655,779	82.4	6,651,004	79.6
SAULT STE. MARIE.....	44	938	100.0	3,821,464	100.0	1,469,765	100.0
Less than \$5,000.....	19	18	1.9	46,905	1.2	28,773	2.0
\$5,000 to \$20,000.....	14	48	5.1	130,588	3.4	68,905	4.7
\$20,000 to \$100,000.....	8	202	21.5	465,500	12.2	332,773	22.6
\$100,000 and over <sup>1</sup> .....	3	670	71.4	3,178,471	83.2	1,039,314	70.7
TRAVERSE CITY.....	60	956	100.0	2,251,484	100.0	1,164,651	100.0
Less than \$5,000.....	20	14	1.5	51,845	2.3	31,551	2.7
\$5,000 to \$20,000.....	16	58	6.1	154,103	6.8	82,581	7.1
\$20,000 to \$100,000.....	20	282	29.5	907,181	40.3	408,051	34.6
\$100,000 to \$1,000,000.....	4	602	63.0	1,138,355	50.6	647,468	55.6

<sup>1</sup> Includes the group "\$1,000,000 and over."

In the cities the same general condition prevailed as in the state as a whole, namely, a preponderance as to number of wage earners, value of products, and value added by manufacture for establishments having products valued at \$100,000 and over. The highest percentage of total value of products reported by establishments of this class, 98.1 per cent, appears for Flint, and the lowest, 50.6 per cent, for Traverse City. Each of the 27 cities shows a considerable proportion of the total number of establishments with products less than \$20,000, but the value of their products was relatively small. Of the total number of establishments for each of the 2 cities having over 100,000 inhabitants, those having products valued at less than \$20,000 in Detroit represented 54.7 per cent and in Grand Rapids 58.9 per cent, whereas the value of products formed only 2 per cent and 4.3 per cent, respectively.

Table 20 shows the size of establishments in 1914 as measured by the number of wage earners employed, for all industries combined, for 53 of the more important industries, and for each of the 27 cities having more than 10,000 inhabitants.

Table 21 presents, for 1914, percentages based on the figures in Table 20, and for 1909 similar percentages for all industries combined and for individual industries in the state as a whole.

Table 20

INDUSTRY AND CITY.	TOTAL.		ESTABLISHMENTS EMPLOYING—																
			No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
			Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.
All industries.....	8,724	271,090	1,061	4,501	9,804	1,526	16,898	694	22,674	407	29,238	323	50,918	140	48,753	48	32,411	24	60,394
Agricultural implements.....	30	2,143	1	8	15	6	96	5	148	5	316	2	447	3	1,121	...	...	...	...
Automobiles, including bodies and parts..	205	67,538	3	36	91	37	444	29	1,010	24	1,731	33	5,184	20	7,727	11	8,061	12	43,290
Boots and shoes.....	24	2,035	1	4	6	6	76	1	27	6	439	4	504	1	317	1	666	...	...
Boxes, fancy and paper.....	23	1,461	2	1	1	7	78	7	211	1	76	4	727	1	368	...	...	...	...
Brass, bronze, and copper products.....	64	4,731	2	23	50	13	172	6	221	5	350	11	1,919	3	965	...	...	1	1,054
Bread and other bakery products.....	922	4,014	152	643	1,373	97	919	22	667	3	179	5	876	...	...	...	...	...	...
Brick, tile, pottery, and other clay products	102	2,194	...	42	131	38	421	11	362	6	495	5	785	...	...	...	...	...	...
Butter, cheese, and condensed milk.....	364	1,367	23	303	582	25	243	9	265	4	277	...	...	...	...	...	...	...	...
Canning and preserving.....	91	2,507	8	34	78	25	319	14	446	5	339	2	267	3	1,058	...	...	...	...
Carriages and wagons and materials.....	177	1,417	22	104	216	37	365	7	208	6	439	1	189	...	...	...	...	...	...
Cars and general shop construction and repairs by electric-railroad companies.....	18	885	...	5	17	8	109	1	22	3	185	...	...	...	1	552	...	...	...
Cars and general shop construction and repairs by steam-railroad companies.....	26	5,803	...	3	12	4	41	1	33	5	330	6	1,068	2	671	4	2,436	1	1,212
Cement.....	11	1,340	...	...	...	1	15	1	38	4	335	4	591	1	361	...	...	...	...
Chemicals.....	36	4,509	3	16	29	7	86	4	133	...	...	1	148	3	1,053	...	...	2	3,055
Clothing, men's, including shirts.....	39	2,502	...	10	26	12	136	8	235	4	313	1	191	3	1,078	1	523	...	...
Clothing, women's.....	32	1,672	1	9	34	10	133	4	117	5	377	2	317	...	...	1	694	...	...
Coffins, burial cases, and undertakers' goods.....	23	540	2	5	11	10	106	4	126	1	57	1	240	...	...	...	...	...	...
Confectionery.....	64	993	4	28	73	18	188	8	273	5	354	1	105	...	...	...	...	...	...
Cooperage and wooden goods, not elsewhere specified.....	82	1,967	4	50	94	13	168	5	145	5	291	2	288	3	978	...	...	...	...
Copper, tin, and sheet-iron products.....	162	2,397	13	98	234	32	346	11	322	3	199	3	477	2	819	...	...	...	...
Corsets.....	16	2,149	...	4	15	4	47	1	35	1	63	3	542	2	575	1	872	...	...
Electrical machinery, apparatus, and supplies.....	35	1,144	2	14	45	4	54	7	202	5	342	3	501	...	...	...	...	...	...
Flour-mill and gristmill products.....	427	1,370	56	329	651	33	308	7	222	1	78	1	111	...	...	...	...	...	...
Food preparations, not elsewhere specified.....	56	1,683	8	27	79	10	123	6	177	3	196	...	...	...	...	2	1,108	...	...
Foundry and machine-shop products.....	705	26,497	47	271	674	169	2,033	103	3,441	59	4,243	34	5,692	14	4,975	7	4,403	1	1,036
Furniture and refrigerators.....	202	16,267	8	41	111	24	299	41	1,407	33	2,434	38	5,778	14	4,495	3	1,743	...	...
Gas and electric fixtures and lamps.....	13	597	1	5	16	4	52	...	...	2	158	...	...	1	371	...	...	...	...
Gas, illuminating and heating.....	59	2,349	...	16	41	27	279	7	271	7	580	1	242	...	...	1	936	...	...
Hosiery and knit goods.....	34	2,714	...	3	8	12	167	7	236	6	415	2	277	4	1,611	...	...	...	...
Iron and steel, blast furnaces.....	12	991	...	...	...	1	12	3	115	5	329	3	535	...	...	...	...	...	...

Table 20—Continued.

Table 20—Continued.			ESTABLISHMENTS EMPLOYING—																	
INDUSTRY AND CITY.	TOTAL.		No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
	Establishments.	Wage earners (average number).	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
Iron and steel, steel works and rolling mills	9	718			1	19	2	89	3	209	3	401								
Iron and steel forgings	11	552		2	3	5	45	1	24			2	218	1	262					
Leather goods	103	675	19	60	90	15	166	7	232	1	67	1	120							
Leather, tanned, curried, and finished	23	2,773				3	37	3	80	7	492	8	1,442	2	722					
Liquors, malt	70	2,097		12	43	30	411	18	553	6	484	3	352	1	254					
Lumber and timber products	748	28,527	26	300	678	176	1,920	112	3,777	65	4,712	44	6,850	21	7,328	3	1,779	1	1,483	
Musical instruments, pianos and organs and materials	17	1,070		3	4	2	16	5	154	4	271	2	355	1	270					
Paper and wood pulp	37	6,051		1	3	3	26	8	276	2	146	13	2,012	9	2,680	1	908			
Paper goods, not elsewhere specified	14	750		5	13	2	29	1	25	4	308	2	375							
Patent medicines and compounds and druggists' preparations	142	3,369	41	69	116	18	203	10	312			2	313			1	731	1	1,694	
Printing and publishing	1,113	8,166	229	629	1,535	173	1,767	55	1,793	19	1,446	5	753	3	872					
Salt	15	1,434		1	4	2	24	3	132	3	232	5	700	1	342					
Shipbuilding, including boat building	62	1,261	8	38	84	6	66	4	137	4	315	1	182	1	477					
Slaughtering and meat packing	36	1,181	4	21	50	6	54	2	69			1	129	2	879					
Springs, steel, car and carriage, not made in steel works or rolling mills	6	638		1	1					2	155	3	482							
Stoves and furnaces, including gas and oil stoves	27	4,074		5	25	4	48	5	159	3	230	6	964			4	2,648			
Sugar, beet	10	1,326						2	96	4	288	3	363			1	579			
Tobacco manufactures	626	9,075	188	326	675	82	870	9	261	6	408	7	1,189	4	1,709	2	1,597	2	2,366	
Wall plaster	13	631		4	8	2	24	1	25	3	200	3	374							
Window shades and fixtures	8	702	1	1	1	2	18			1	56	2	374	1	253					
Wirework, including wire rope and cable, not elsewhere specified	33	1,314		10	14	7	78	7	230	5	341	3	383	1	268					
Wood distillation	10	645				1	15	2	82	5	315	2	233							
Wood, turned and carved	45	576	7	12	34	18	260	7	208	1	74									
All other industries	1,492	25,709	175	869	1,710	274	2,967	90	2,837	37	2,569	29	4,353	12	3,894	3	2,175	3	5,204	
Total for cities	4,731	181,588	558	2,024	4,960	1,068	12,054	471	15,547	261	18,786	201	32,729	96	34,685	34	23,379	18	39,448	
ADRIAN	68	1,256	12	30	57	11	138	7	224	5	274	2	295	1	268					
ALPENA	54	1,494	7	23	47	14	113	2	44	4	259	1	115	3	916					
ANN ARBOR	75	842	15	32	73	17	197	8	269	2	148	1	155							
BATTLE CREEK	135	4,599	24	63	161	27	321	7	283	3	217	6	1,107	2	816	3	1,694			
BAY CITY	142	3,771	20	60	166	28	300	17	596	5	302	9	1,266	2	582	1	559			
BENTON HARBOR	62	1,285		38	103	13	150	5	148	4	277	1	250	1	357					
DETROIT	2,036	99,603	252	811	1,964	471	5,424	234	7,736	103	7,439	86	14,030	43	16,692	21	14,834	15	31,484	
ESCANABA	45	777	3	30	83	8	97	2	70			1	207	1	320					
FLINT	94	8,722	8	40	88	26	275	4	113	6	468	4	599	4	1,319			2	5,800	
GRAND RAPIDS	594	17,427	79	246	616	120	1,298	65	2,086	41	3,188	27	4,160	14	4,882	2	1,197			
HANCOCK	21	142	2	12	31	5	65	2	46											
HOLLAND	61	2,165	8	23	67	12	124	8	255	1	84	8	1,317	1	318					
IRONWOOD	24	516		15	43	8	64							1	409					
ISHPEMING	19	79	1	15	34	2	16		26											
JACKSON	147	4,906	8	56	139	49	546	13	422	8	550	10	1,963	2	775	1	511			
KALAMAZOO	213	5,525	26	98	241	44	483	16	544	18	1,280	7	1,098	3	971	1	908			
LANSING	180	6,231	12	91	221	42	498	14	480	13	880	4	699	2	843	1	506	1	2,104	
MANISTEE	47	1,853	3	25	76	7	84	2	70	5	311	2	298	3	1,014					
MARQUETTE	34	589	4	17	41	9	105	1	23	2	150			1	270					
MENOMINEE	52	1,988	2	23	59	10	100	7	231	3	200	5	728	2	670					
MUSKEGON	103	4,646	7	45	120	21	230	13	395	9	671	3	617	3	1,021	2	1,592			
OWOSSO	45	1,231	4	18	39	15	175	1	31	4	339	3	647							
PONTIAC	46	2,409	4	19	49	12	115	3	124	1	67	5	869	1	441	1	744			
PORT HURON	89	1,296	12	45	115	17	222	7	232	6	424	2	303							
SAGINAW	241	6,342	25	101	215	58	698	24	798	16	1,091	13	1,850	3	856	1	834			
SAULT STE. MARIE	44	938	8	23	51	7	73	2	65	2	167			2	582					
TRAVERSE CITY	60	956	12	25	61	15	143	6	233			1	156	1	303					

Of the 8,724 establishments reported for all manufacturing industries in the state, there were 1,061, or 12.2 per cent, in operation during 1914 in which no wage earners were employed. These were small establishments in which the work was done by the proprietors or firm members. In some cases wage earners were employed, but the number was so small and the term of employment so short that in computing the average, as described in the "Explanation of terms," the number was less than one, and the establishment was classed as having "no wage earners." Cigar factories, newspaper and job printing offices, bakeries,

and flour mills and gristmills are the industries in which the largest number of these small establishments were reported.

The small establishments—those employing from 1 to 20 wage earners—still predominate in the majority of the industries of the state. While they represent 6,027, or 69.1 per cent of the total number of establishments, they gave employment to only 26,702 wage earners, or 9.8 per cent of the total for all establishments.

There were only 535, or 6.1 per cent of the total establishments in the state, that reported the employ-

ment of more than 100 wage earners each, but these establishments gave employment to 192,476, or 71.1 per cent of the total average number of wage earners. The group showing the largest number of wage earners was the one employing over 1,000 wage earners each. This group employed 60,394 wage earners, or 22.3 per cent of the total. The industries in which these large establishments are especially prominent are the steam-railroad repair shops and those manufacturing automobiles, including bodies and parts; brass, bronze,

and copper products; chemicals; foundry and machine-shop products; lumber and timber products; patent medicines and compounds and druggists' preparations; and tobacco manufactures.

Among the cities, high percentages of the total number of wage earners, reported by establishments employing more than 100 wage earners each, are shown for Flint, 89.2 per cent; Pontiac, 85.3 per cent; Ironwood, 79.3 per cent; Battle Creek, 78.6 per cent; Detroit, 77.4 per cent; and Holland, 75.5 per cent.

Table 21

INDUSTRY AND CITY.	Cen- sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
All industries.....	1914 1909	3.6 4.4	6.2 7.7	8.4 10.3	10.8 13.3	18.8 22.8	18.0 16.7	12.0 13.5	22.3 11.4
Agricultural implements.....	1914 1909	0.7 1.3	4.5 2.8	6.9 8.8	14.7 6.2	20.9 7.2	52.3 73.7	.....	.....
Automobiles, including bodies and parts.....	1914 1909	0.1 0.2	0.7 0.9	1.5 2.4	2.6 4.1	7.7 14.3	11.4 8.0	11.9 20.5	64.1 49.6
Boots and shoes.....	1914 1909	0.3 0.8	3.7 1.0	1.3 2.7	21.6 18.7	24.8 24.9	15.6 11.2	32.7 40.6	.....
Boxes, fancy and paper.....	1914 1909	0.1 .....	5.3 4.8	14.4 16.3	5.2 19.9	49.8 35.5	25.2 23.5	.....	.....
Brass, bronze, and copper prod- ucts.....	1914 1909	1.1 0.8	3.6 2.5	4.7 4.9	7.4 14.0	40.6 33.1	20.4 22.8	.....	22.3 21.9
Bread and other bakery prod- ucts.....	1914 1909	34.2 38.1	22.9 23.8	16.6 15.2	4.5 13.5	21.8 9.4	.....	.....	.....
Brick, tile, pottery, and other clay products.....	1914 1909	6.0 10.4	19.2 30.1	16.5 28.0	22.6 18.8	35.8 12.7	.....	.....	.....
Butter, cheese, and condensed milk.....	1914 1909	42.6 56.6	17.8 24.9	19.4 8.4	20.3 10.2	.....	.....	.....	.....
Canning and preserving.....	1914 1909	3.1 7.5	12.7 13.5	17.8 20.5	13.5 13.2	10.7 29.2	42.2 16.2	.....	.....
Carriages and wagons and ma- terials.....	1914 1909	15.2 6.1	25.8 8.5	14.7 7.1	31.0 20.5	13.3 14.4	.....	.....	.....
Cars and general shop construc- tion and repairs by electric railroad companies.....	1914 1909	1.9 1.7	12.3 18.6	2.5 19.9	20.9 .....	.....	62.4 59.8	.....	.....
Cars and general shop construc- tion and repairs by steam railroad companies.....	1914 1909	0.2 0.5	0.7 1.2	0.6 2.2	5.7 5.4	18.4 10.0	11.6 28.1	42.0 52.7	20.9 .....
Cement.....	1914 1909	.....	1.1 .....	2.8 .....	25.0 6.6	44.1 28.7	26.9 64.7	.....	.....
Chemicals.....	1914 1909	0.6 0.8	1.9 1.2	3.1 0.8	.....	3.3 15.6	23.4 10.3	.....	67.8 68.3
Clothing, men's, including shirts.....	1914 1909	1.0 0.4	5.4 4.7	9.4 7.1	12.5 10.9	7.6 22.7	43.1 54.2	20.9 .....	.....
Clothing, women's.....	1914 1909	2.0 1.9	8.0 10.3	7.0 20.6	22.5 12.4	19.0 21.3	.....	41.5 33.4	.....
Coffins, burial cases, and under- takers' goods.....	1914 1909	2.0 2.7	19.6 19.8	23.3 24.6	10.6 12.3	44.4 40.5	.....	.....	.....
Confectionery.....	1914 1909	7.4 7.2	18.9 16.1	27.5 22.6	35.6 12.5	10.6 41.6	.....	.....	.....
Cooperage and wooden goods, not elsewhere specified.....	1914 1909	4.8 3.9	8.5 6.6	7.5 16.3	14.8 12.0	14.6 23.2	49.7 38.2	.....	.....
Copper, tin, and sheet-iron products.....	1914 1909	9.8 8.8	14.4 15.0	13.4 14.2	8.3 2.3	19.9 9.5	34.2 29.0	.....	.....
Corsets.....	1914 1909	0.7 0.5	2.2 1.4	1.6 4.1	2.9 3.8	25.2 5.0	26.8 23.1	40.6 62.2	.....
Electrical machinery, appara- tus, and supplies.....	1914 1909	3.9 2.5	4.7 9.6	17.7 19.5	29.9 4.2	43.8 35.4	.....	.....	.....
Flour-mill and gristmill prod- ucts.....	1914 1909	47.5 52.2	22.5 21.3	16.2 17.6	5.7 9.0	8.1 .....	.....	.....	.....
Food preparations, not else- where specified.....	1914 1909	4.7 4.6	7.3 4.8	10.5 20.9	11.6 11.9	.....	65.8 39.1	.....	.....
Foundry and machine-shop products.....	1914 1909	2.5 2.7	7.7 9.0	13.0 13.5	16.0 19.4	21.5 28.9	18.8 12.7	16.6 13.8	3.9 .....
Furniture and refrigerators.....	1914 1909	0.7 0.5	1.8 1.9	8.6 9.0	15.0 18.6	35.5 30.7	27.6 31.9	10.7 7.4	.....
Gas and electric fixtures and lamps.....	1914 1909	2.7 4.1	8.7 20.3	.....	26.5 69.9	.....	62.1 .....	.....	.....
Gas, illuminating and heating.....	1914 1909	1.7 3.4	11.9 13.7	11.5 18.6	24.7 21.9	10.3 13.3	.....	39.8 29.0	.....
Hosiery and knit goods.....	1914 1909	0.3 0.3	6.2 6.3	8.7 6.5	15.3 21.8	10.2 30.0	59.4 35.0	.....	.....
Iron and steel, blast furnaces.....	1914 1909	.....	1.2 .....	11.6 7.4	33.2 38.8	54.0 28.0	.....	.....	.....
Iron and steel, steel works and rolling mills.....	1914 1909	.....	2.6 .....	12.4 4.1	29.1 24.9	55.8 15.7	.....	.....	.....
Iron and steel forgings.....	1914 1909	0.5 0.3	8.2 .....	4.3 .....	.....	39.5 48.5	47.5 .....	.....	.....
Leather goods.....	1914 1909	13.3 8.2	24.6 20.4	34.4 26.6	9.9 27.2	17.8 17.6	.....	.....	.....
Leather, tanned, curried, and finished.....	1914 1909	.....	1.3 2.3	2.9 12.6	17.7 14.8	62.0 67.2	26.0 13.1	.....	.....
Liquors, malt.....	1914 1909	2.1 4.3	19.6 31.9	26.4 33.4	23.1 14.3	16.8 16.0	12.1 .....	.....	.....
Lumber and timber products.....	1914 1909	2.4 3.6	6.7 8.9	13.2 14.3	16.5 17.3	24.0 26.4	25.7 19.5	6.2 10.0	5.2 .....
Musical instruments, pianos and organs and materials.....	1914 1909	0.4 0.3	1.5 1.5	14.4 2.8	25.3 17.2	33.2 39.6	25.2 38.6	.....	.....
Paper and wood pulp.....	1914 1909	.....	0.4 1.3	4.6 5.5	2.4 17.3	33.3 61.3	44.3 8.0	15.0 17.7	.....
Paper goods, not elsewhere spec- ified.....	1914 1909	1.7 0.8	3.9 4.6	3.3 2.1	41.1 17.4	50.0 44.3	.....	.....	.....
Patent medicines and com- pounds and druggists' prepa- rations.....	1914 1909	3.4 4.7	6.0 11.8	9.3 .....	.....	9.2 8.2	21.7 14.8	50.3 55.1	.....
Printing and publishing.....	1914 1909	18.8 19.7	21.6 26.2	22.0 20.1	17.7 11.6	9.2 18.9	10.7 3.5	.....	.....
Salt.....	1914 1909	0.3 1.3	1.7 6.8	9.2 7.9	16.2 34.9	48.8 49.1	23.8 .....	.....	.....
Shipbuilding, including boat building.....	1914 1909	6.7 4.1	5.2 5.0	10.9 2.8	25.0 13.3	14.4 33.0	37.8 13.4	.....	28.4 .....
Slaughtering and meat packing.....	1914 1909	4.2 5.9	4.6 6.2	5.8 16.5	.....	10.9 38.5	74.4 32.9	.....	.....
Springs, steel, car and carriage, not made in steel works or roll- ing mills.....	1914 1909	0.2 .....	.....	24.3 29.6	75.5 70.4	.....	.....	.....	.....
Stoves and furnaces, including gas and oil stoves.....	1914 1909	0.6 0.7	1.2 1.5	3.9 2.5	5.6 9.1	23.7 8.1	65.0 5.7	.....	22.4 .....
Sugar, beet.....	1914 1909	.....	.....	7.2 7.2	21.7 10.7	27.4 39.5	43.7 42.6	.....	.....
Tobacco manufactures.....	1914 1909	7.4 9.9	9.6 11.1	2.9 7.2	4.5 4.8	13.1 16.2	18.8 18.0	17.6 18.7	26.1 14.1
Wall plaster.....	1914 1909	1.3 1.1	3.8 3.8	4.0 8.3	31.7 27.5	59.3 18.4	.....	.....	.....
Window shades and fixtures.....	1914 1909	0.1 0.3	2.6 .....	.....	8.0 10.7	53.3 41.3	36.0 44.2	.....	.....
Wirework, including wire rope and cable, not elsewhere spec- ified.....	1914 1909	1.1 4.7	5.9 11.0	17.5 27.0	26.0 17.2	29.1 40.2	20.4 .....	.....	.....
Wood distillation.....	1914 1909	.....	2.3 3.1	12.7 14.0	48.8 43.3	36.1 39.2	.....	.....	.....
Wood, turned and carved.....	1914 1909	5.9 4.9	45.1 21.7	36.1 23.0	12.8 13.5	.....	36.8 .....	.....	.....
All other industries.....	1914 1909	6.7 5.6	11.5 10.7	11.0 9.2	10.0 11.3	16.9 15.0	15.1 13.1	8.5 11.1	20.2 23.9



**Table 21—Continued.**

INDUSTRY AND CITY.	Cen- sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
Total for cities.....	1914	2.7	6.6	8.6	10.3	18.0	19.1	12.9	21.7
ADRIAN.....	1914	4.5	11.0	17.8	21.8	23.5	21.3	.....	.....
ALPENA.....	1914	3.1	7.6	2.9	17.3	7.7	61.3	.....	.....
ANN ARBOR.....	1914	8.7	23.4	31.9	17.6	18.4	.....	.....	.....
BATTLE CREEK.....	1914	3.5	7.0	6.2	4.7	24.1	17.7	36.8	.....
BAY CITY.....	1914	4.4	8.0	15.8	8.0	33.6	15.4	14.8	.....
BENTON HARBOR.....	1914	8.0	11.7	11.5	21.6	19.5	27.8	.....	.....
DETROIT.....	1914	2.0	5.4	7.8	7.5	14.1	16.8	14.9	31.6
ESCANABA.....	1914	10.7	12.5	9.0	.....	26.6	41.2	.....	.....
FLINT.....	1914	1.0	3.2	1.3	5.4	6.9	15.1	.....	67.2
GRAND RAPIDS.....	1914	3.5	7.4	12.0	18.3	23.9	28.0	6.9	.....
HANCOCK.....	1914	21.8	45.8	32.4	.....	.....	.....	.....	.....
HOLLAND.....	1914	3.1	5.7	11.8	3.9	60.8	14.7	.....	.....
IRONWOOD.....	1914	8.3	12.4	.....	.....	.....	79.3	.....	.....
ISHPEMING.....	1914	43.0	20.3	36.7	.....	.....	.....	.....	.....
JACKSON.....	1914	2.8	11.1	8.6	11.2	40.0	15.8	10.4	.....
KALAMAZOO.....	1914	4.4	8.7	9.8	23.2	19.9	17.6	16.4	.....
LANSING.....	1914	3.5	8.0	7.7	14.1	11.2	13.5	8.1	33.8
MANISTEE.....	1914	4.1	4.5	3.8	16.8	16.1	54.7	.....	.....
MARQUETTE.....	1914	7.0	17.8	3.9	25.5	.....	45.8	.....	.....
MENOMINEE.....	1914	3.0	5.0	11.6	10.1	36.6	33.7	.....	.....
MUSKOGON.....	1914	2.6	5.0	8.5	14.4	13.3	22.0	34.3	.....
OWOSSO.....	1914	3.2	14.2	2.5	27.5	52.6	.....	.....	.....
PONTIAC.....	1914	2.0	4.8	5.1	2.8	36.1	18.3	30.9	.....
PORT HURON.....	1914	8.9	17.1	17.9	32.7	23.4	.....	.....	.....
SAGINAW.....	1914	3.4	11.0	12.6	17.2	29.2	13.5	13.2	.....
SAULT STE. MARIE.....	1914	5.4	7.8	6.9	17.8	.....	62.0	.....	.....
TRAVERSE CITY.....	1914	6.4	15.0	24.4	.....	18.3	38.0	.....	.....

**Engines and power.**—Table 22 shows, for 1914, 1909, and 1904, for all industries combined, the number and horsepower of engines or motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

This table shows an increase in the power of engines and other prime movers employed in manufacturing industries of the state, amounting to 165,895 horsepower, or 27.7 per cent, from 1909 to 1914, nearly three-fourths of which was due to the increase in rented power. The use of rented power, now almost wholly electric, has greatly increased since 1904, when it represented only 3.4 per cent of the total primary power reported. In 1909 the amount of rented power had increased to 12.8 per cent of the total and in 1914 to 25.7 per cent of the total. The use of electric motors for the purpose of applying power generated within the same establishments has increased greatly, the horsepower of such motors increasing from 27,559 in 1904 to 58,794 in 1909 and 123,264 in 1914.

In 1914, as in 1909 and 1904, steam power formed the greater part of the total primary power reported, but notwithstanding an increase of 89,338 horsepower during the earlier five-year period and of 51,235 horsepower during the later period, the proportion which this kind of power formed of the total primary power decreased from 85.3 per cent in 1904 to 77.8 per cent in 1909 and 67.6 per cent in 1914. While the number of internal-combustion engines decreased from 1909 to 1914, there was an increase of 5,605 in horsepower during the same period. This class of power, however, represented only 2.6 per cent of the total primary power in 1914. During the period from 1909 to 1914 there was quite a decrease in the number and horsepower of water wheels, turbines, and motors, which formed 4.1 per cent of the total primary power in the later year.

**Table 22**

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total.....	25,686	15,527	6,616	764,183	598,288	440,890	100.0	100.0	100.0
Owned.....	5,790	6,967	6,616	568,075	521,543	426,074	74.3	87.2	96.6
Steam engines and turbines <sup>1</sup> .....	4,177	5,066	4,978	516,771	465,536	376,198	67.6	77.8	85.3
Internal-combustion engines.....	1,662	1,167	954	19,593	13,988	10,534	2.6	2.3	2.4
Water wheels, turbines, and motors.....	551	734	684	31,711	42,019	39,342	4.1	7.0	8.9
Rented.....	19,896	8,560	.....	196,108	76,745	14,816	25.7	12.8	3.4
Electric.....	19,896	8,560	(?)	192,502	74,270	12,411	25.2	12.4	2.8
Other.....	.....	.....	.....	3,606	2,475	2,405	0.5	0.4	0.5
Electric.....	28,992	12,917	.....	315,766	133,064	39,970	100.0	100.0	100.0
Rented.....	19,896	8,560	(?)	192,502	74,270	12,411	61.0	55.8	31.1
Generated by establishments reporting.....	9,096	4,357	1,826	123,264	58,794	27,559	39.0	44.2	68.9

<sup>1</sup> Figures for horsepower include for 1909 and 1904 the amounts reported under the head of "other" owned power.

<sup>2</sup> Not reported.

**Fuel.**—Closely related to the subject of power employed in manufactures is that of the fuel consumed in generating this power or otherwise used in the manufacturing processes.

Table 23 shows, for 1914, the quantity of each kind of fuel used, for which data were obtained, for all industries combined, and for certain selected industries in the state as a whole, and for all industries combined in each city.

Table 23

INDUSTRY AND CITY.	COAL.		Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	An-thra-cite (tons, 2,240 lbs.).	Bitumi-nous (tons, 2,000 lbs.).			
All industries.....	95,815	5,974,604	460,122	781,212	2,455,572
Agricultural implements.....	115	23,242	2,996	11,716	146
Automobiles, including bodies and parts.....	3,188	304,003	16,297	245,415	1,322,789
Boxes, fancy and paper.....	38	39,011	1	1	139
Brass, bronze, and copper products.....	498	48,577	24,103	33,615	14,752
Bread and other bakery products.....	8,417	20,599	19,216	83	16,200
Brick, tile, pottery, and other clay products.....	820	132,650	1,558	136,329	.....
Butter, cheese, and condensed milk.....	3,344	71,742	179	189	20
Canning and preserving.....	416	22,597	238	432	229
Carriages and wagons and materials.....	133	11,006	183	142	480
Cars and general shop construction and repairs by steam-railroad companies..	47	111,827	358	13,258	377
Cement.....	.....	498,023	1,559	165	.....
Chemicals.....	16,321	854,567	80,534	36	464,646
Confectionery.....	120	5,334	1,022	5	9,130
Copper, tin, and sheet-iron products.....	160	11,549	947	762	9,519
Flour-mill and gristmill products.....	529	59,027	1,074	2,985	423
Food preparations, not elsewhere specified.....	5,289	61,984	6,613	52	315,450
Foundry and machine-shop products.....	2,405	230,724	57,237	90,826	88,609
Furniture and refrigerators.....	6,797	118,146	3,191	756	4,000
Gas, illuminating and heating.....	407	622,240	9,851	116,504	.....
Grease and tallow, not including lubricating greases.....	80	10,956	.....	.....	.....
Hosiery and knit goods.....	255	19,406	.....	5	151
Ice, manufactured.....	15	25,205	.....	25	.....
Iron and steel, blast furnaces.....	.....	14,701	190,204	3	.....
Iron and steel, steel works and rolling mills.....	.....	22,173	2,036	23,404	4,505
Iron and steel forgings.....	20	13,793	191	39,291	11,777
Leather, tanned, curried, and finished.....	63	84,275	.....	41	.....
Liquors, malt.....	4,381	91,198	45	4,167	5,335
Lumber and timber products.....	1,322	113,957	944	2,123	3,233
Musical instruments, pianos and organs and materials.....	161	12,215	.....	.....	65
Paper and wood pulp.....	.....	513,410	.....	.....	.....
Paper goods, not elsewhere specified.....	.....	14,321	22	.....	48
Patent medicines and compounds and druggists' preparations.....	111	28,792	87	38	3,835
Paving materials.....	14	31,021	.....	.....	.....
Printing and publishing.....	1,807	15,979	432	1,202	51,493
Salt.....	.....	262,048	507	.....	.....

INDUSTRY AND CITY.	COAL.		Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	An-thra-cite (tons, 2,240 lbs.).	Bitumi-nous (tons, 2,000 lbs.).			
Shipbuilding, including boat building.....	19	22,594	410	2,290	194
Slaughtering and meat packing.....	28	28,357	125	6	.....
Springs, steel, car and carriage, not made in steel works or rolling mills.....	.....	9,876	.....	25,198	1,974
Stoves and furnaces, including gas and oil stoves.....	205	29,891	9,998	4,188	1,736
Sugar, beet.....	.....	173,404	6,194	53	.....
Tobacco manufactures.....	716	15,920	101	16	15,582
Wall plaster.....	18	33,677	1,042	60	.....
Wirework, including wire rope and cable, not elsewhere specified.....	12	7,841	341	28	14,702
Wood distillation.....	4,600	47,103	.....	3	3,235
All other industries.....	33,944	1,085,643	20,287	25,680	90,798
Total for cities.....	45,626	2,527,995	157,945	541,734	1,011,991
ADRIAN.....	738	18,036	384	1,033	1,256
ALPENA.....	51	164,116	170	16	484
ANN ARBOR.....	96	26,747	640	706	15,121
BATTLE CREEK.....	6,026	117,506	4,035	7,556	316,378
BAY CITY.....	113	52,720	5,947	29,652	2,368
BENTON HARBOR.....	41	26,725	2,781	3,740	1,363
DETROIT.....	13,920	1,068,287	108,441	342,430	469,776
ESCANABA.....	41	10,283	421	1,168	205
FLINT.....	161	68,570	3,392	59,611	94,837
GRAND RAPIDS.....	3,893	225,453	6,442	13,523	34,364
HANCOCK.....	142	980	44	.....	204
HOLLAND.....	29	32,519	924	104	351
IRONWOOD.....	116	678	313	1,144	.....
ISPEMING.....	18	119	3	1	80
JACKSON.....	193	99,664	3,685	30,474	9,100
KALAMAZOO.....	189	196,011	3,529	10,020	9,572
LANSING.....	217	61,362	5,379	16,158	17,446
MANISTEE.....	150	37,487	666	994	187
MARQUETTE.....	50	6,889	361	.....	300
MENOMINEE.....	325	24,524	776	2,563	891
MUSKOGON.....	2,002	74,390	3,200	6	9,200
OWOSSO.....	58	27,657	1,142	330	1,030
PONTIAC.....	64	28,305	1,062	17,175	18,798
PORT HURON.....	252	33,777	1,212	548	1,273
SAGINAW.....	403	104,002	2,425	1,874	5,536
SAULT STE. MARIE.....	16,264	15,972	126	879	1,151
TRAVERSE CITY.....	74	5,216	445	24	720

## SPECIAL STATISTICS.

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and cost of materials, the quantity and value of products, and other information for securing which no provision is made on the general schedule. Certain data of this character for nine important industries and for power laundries in Michigan are here presented.

**Automobiles, including bodies and parts.**—Table 24 shows the number and value of the different classes of automobiles manufactured, as reported at the censuses of 1914, 1909, and 1904.

During 1914, 443,072 automobiles, valued at \$303,774,254, were made in the automobile factories of Michigan, as compared with 64,800, valued at \$70,359,749, in 1909, and 9,125, valued at \$6,552,804, in 1904, the number in 1914 being nearly forty-nine times, and the value forty-six times as great as in 1904. There were 437,093 passenger automobiles made in 1914, of which 367,092 were touring cars, 63,381 runabouts and buggies, and 6,620 closed and other passenger cars. There were also made 5,979 business vehicles, of which 1,295 were delivery wagons and 4,684 were trucks.

Table 24

	1914		1909		1904	
	Num-ber.	Value.	Num-ber.	Value.	Num-ber.	Value.
Products, total value.....	.....	\$398,289,022	.....	\$96,651,451	.....	\$7,996,534
Automobiles.....	443,072	303,774,254	64,800	70,359,749	9,125	6,552,804
Passenger vehicles.....	437,093	295,583,364	64,025	69,038,967	9,023	6,481,164
Touring cars.....	367,092	251,609,056	.....	.....	.....	.....
Runabouts and buggies.....	63,381	33,307,852	62,319	64,940,793	9,023	6,481,164
Closed (limousines, cabs, etc.).....	6,620	10,666,456	1,560	3,825,066	( <sup>1</sup> )	( <sup>1</sup> )
All other (omnibuses, sight-seeing wagons, government and municipal, etc.).....	( <sup>2</sup> )	( <sup>2</sup> )	146	273,108	( <sup>1</sup> )	( <sup>1</sup> )
Business vehicles.....	5,979	8,190,890	775	1,320,782	102	71,540
Delivery wagons.....	1,295	970,569	401	319,071	51	35,250
Trucks.....	4,684	7,220,321	374	1,001,711	51	36,290
All other products, including bodies and parts and repairs.....	.....	94,514,768	.....	26,291,702	.....	1,443,730

<sup>1</sup> Not reported.

<sup>2</sup> Figures for "all other" combined with those for "closed cars," to avoid disclosure of individual operations.

The greatest increase in the different classes of vehicles manufactured was in touring cars, which increased from 9,023 in 1904 to 62,319 in 1909 and 367,092 in 1914. The output of closed passenger

vehicles was more than four times greater in 1914 than in 1909. Of the various classes of business vehicles, trucks show the largest increase in both number and value, the number increasing from 51 in 1904 to 374 in 1909 and to 4,684 in 1914, and the value increasing from \$36,390 in 1904 to \$1,001,711 in 1909 and to \$7,220,321 in 1914. In 1914 all the automobiles were gasoline, except 1,661 which were electric, as compared with 538 in 1909 and 11 in 1904.

Of the 443,072 automobiles produced in Michigan during 1914, 313,395, or nearly three-fourths, were rated as having 20 but less than 30 horsepower. The corresponding figures for 1909 were 17,938 out of a total of 64,800, or about three-elevenths. The remainder were distributed in groups according to horsepower ratings as follows: 1,937 were of less than 10 horsepower in 1914, as compared with 4,328 in 1909; 39,250 were of 10 but less than 20 horsepower, against 13,814; 79,254 were of 30 to 50 horsepower, as compared with 28,103; and 9,236 had 50 or more horsepower, against 617.

There were 569,054 automobiles made in the United States during 1914 by the establishments engaged primarily in this industry, of which 77.9 per cent were made in Michigan, as compared with 51.2 per cent in 1909 and 42.1 per cent in 1904.

The products included under the head of "all other products" at the census of 1914, the value of which amounted to \$94,514,768, or 23.7 per cent of the total for all products, consisted largely of automobile bodies and parts manufactured by establishments where no finished vehicles were produced. The manufacture of bodies and parts is diversified to a considerable extent and, as these partly manufactured products become the materials for other establishments which assemble the parts and produce the complete vehicle, there is duplication in the total cost of materials and value of products reported for the industry approximately equivalent to the value of such bodies and parts as were used in the factories of the state.

**Flour-mill and gristmill products.**—Table 25 shows the quantity and value of the flour-mill and gristmill products for 1914, 1909, and 1904.

Although there was a general decrease in 1914 for all of the important products of this industry, as compared with 1909, it is still one of the most important industries of Michigan. Wheat flour, which contributed more than one-half of the total value of all products at each census, shows a decrease of 11.3 per cent in quantity and 14.8 per cent in value since 1909. The output of bran and middlings and feed and offal, which combined formed 35.2 per cent of the total value of products for this industry in 1914, decreased 29.6 per cent in quantity and 30.9 per cent in value from 1909 to 1914. The output of rye flour increased in both quantity and value during both five-year periods.

The equipment of the flour mills and gristmills of the state in 1914 included 2,029 stands of rolls, 182 runs of

stone, and 391 attrition mills. Six mills manufactured barrels in 1914 and one manufactured sacks.

**Table 25**

	1914	1909	1904
Products, total value.....	\$27,381,474	\$34,860,803	\$26,512,027
Wheat flour:			
Barrels.....	3,056,744	3,447,800	3,901,219
Value.....	\$16,056,643	\$18,838,591	\$17,155,090
Rye flour:			
Barrels.....	74,662	61,963	61,842
Value.....	\$377,707	\$266,698	\$219,597
Buckwheat flour:			
Pounds.....	15,773,491	20,161,026	21,930,856
Value.....	\$447,545	\$547,024	\$524,429
Barley meal:			
Pounds.....	221,600	33,600	205,770
Value.....	\$6,638	\$499	\$2,411
Corn meal and corn flour:			
Barrels.....	131,646	177,189	210,116
Value.....	\$461,630	\$606,706	\$506,615
Hominy and grits:			
Pounds.....	466,510	38,610	43,802
Value.....	\$8,439	\$1,098	\$1,075
Bran and middlings:			
Tons.....	149,893	( <sup>1</sup> )	( <sup>1</sup> )
Value.....	\$3,298,041	( <sup>1</sup> )	( <sup>1</sup> )
Feed and offal:			
Tons.....	216,780	520,810	404,404
Value.....	\$6,350,156	\$13,970,486	\$7,850,231
Breakfast foods:			
Pounds.....	102,755		
Value.....	\$3,468		
All other cereal products, value.....	\$272,508	\$318,340	
All other products, value.....	\$98,699	\$311,361	\$252,579

<sup>1</sup> Included in "feed and offal."

**Printing and publishing.**—The number and aggregate circulation per issue of the various classes of publications in Michigan in 1914, 1909, and 1904 are shown in Table 26.

**Table 26**

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1914	1909	1904	1914	1909	1904
Total.....	736	747	787	3,827,929	2,766,282	3,074,297
Daily.....	80	87	86	888,981	681,919	544,282
Sunday.....	14	15	12	342,163	256,583	172,687
Semiweekly and triweekly.....	28	34	30	45,883	82,640	99,339
Weekly.....	517	526	570	793,176	750,298	774,758
Monthly.....	84	73	74	1,428,889	927,601	1,372,519
Quarterly.....	4	4	4	12,400	48,100	67,500
All other classes.....	9	8	11	116,437	19,141	43,212

Although the total number of publications decreased, there was an increase in their aggregate circulation between 1909 and 1914, a condition which shows a gain over that from 1904 to 1909, when a decrease was reported for both items. The circulation of all classes of publications, except semiweeklies and triweeklies, and quarterlies, increased from 1909 to 1914, the greatest increase being in the monthlies, 501,288, or 54 per cent, due largely to an increase in agricultural publications. The combined circulation of the daily and Sunday editions was 1,231,144 in 1914, as compared with 938,502 in 1909, a gain of 31.2 per cent, while the number of publications decreased 7.8 per cent. Of the 80 dailies in 1914, 61, with an aggregate circulation of 644,219, were evening papers. The weeklies show a slight increase in circulation from 1909 to 1914, which more than made up the decrease reported for the earlier five-year period.

The triweeklies, which are combined with the semi-weeklies, were 7 in number in 1914, 6 in 1909, and 4 in 1904.

Of the 736 publications reported in 1914, 53 were printed in foreign languages, and reported a combined circulation of 169,612, or 4.7 per cent of the total. This represents an increase over 1909 of 3 in number of publications, and 25,530, or 17.7 per cent, in circulation. Eleven were printed in German, 8 each in Dutch and Finnish, 7 in Polish, 5 in English and German, 3 each in Italian and Swedish, 2 in Hungarian, and 1 each in Croatian, Flemish, Russian, Slovenian, Ukrainian, and English and Dutch. Five of these publications were dailies and 32 were weeklies.

**Leather, tanned, curried, and finished.**—Table 27 gives the quantity and cost of the materials used in this industry and the quantity and value of products for 1914, 1909, and 1904.

Table 27	1914	1909	1904
<b>MATERIALS.</b>			
Total cost.....	\$20,982,247	\$12,120,971	\$7,271,023
Cattle hides:			
Number.....	1,708,952	1,430,885	1,126,456
Cost.....	\$15,807,830	\$8,022,645	\$5,292,740
All other raw stock, cost.....	\$727,628	\$1,055,188	\$512,663
All other materials, cost.....	\$4,446,789	\$3,043,138	\$1,465,620
<b>PRODUCTS.</b>			
Total value.....	\$25,503,573	\$15,331,104	\$9,340,349
Leather:			
Sole—			
Sides.....	1,871,940	1,603,512	1,353,293
Value.....	\$12,641,509	\$7,326,276	\$4,954,749
Harness—			
Sides.....	403,346	214,879	195,695
Value.....	\$2,580,218	\$1,210,132	\$854,690
All other, value.....	\$9,212,158	\$6,405,052	\$3,224,996
All other products, value.....	\$451,361	\$225,619	\$153,650
Work on materials for others, value..	\$618,327	\$104,025	\$152,204

Of the materials used, cattle hides show the greatest increase in cost during the five-year period 1909–1914, \$7,785,185, or 97 per cent, but the number of hides used increased only 278,067, or 19.4 per cent. Nine and six-tenths per cent of the cattle hides tanned in the United States during 1914 were tanned in Michigan establishments.

The value of products in 1914 was \$25,503,573, representing an increase of 66.4 per cent over the value reported for 1909 and 173 per cent over the value for 1904. Sole leather, mainly hemlock, formed nearly one-half of the total value of products for the industry at each census. About one-half of the total value of the leather products is represented by the total for "all other" which includes "cattle side upper," horse, upholstery, case, bag, and strap, and bookbinders' leather, and finished splits.

"All other products," consisting of wool, hair, glue stock, fertilizer materials, etc., has doubled since 1909, and the amount received for tanning, currying, and finishing for others has increased nearly three times. There was an increase in each item over previous

censuses, except in "all other raw stock." Michigan ranked sixth in value of products in this industry.

**Butter, cheese, and condensed milk.**—Table 28 gives the quantity and value of the principal products for 1914, 1909, and 1904.

Table 28	1914	1909	1904
Products, total value.....	\$21,549,597	\$14,287,499	\$8,208,706
Butter:			
Pounds.....	43,220,077	35,511,760	21,013,000
Value.....	\$12,410,504	\$10,043,137	\$4,411,196
Packed solid—			
Pounds.....	32,925,588	30,328,760	19,272,730
Value.....	\$9,305,152	\$8,580,270	\$4,027,770
Prints or rolls—			
Pounds.....	10,294,489	5,183,000	1,740,270
Value.....	\$3,051,352	\$1,456,807	\$383,426
Cream sold:			
Pounds.....	7,604,889	2,572,764	3,139,609
Value.....	\$901,054	\$248,276	\$234,540
Cheese:			
Pounds.....	13,267,145	13,382,100	16,814,856
Value.....	\$1,773,576	\$1,911,875	\$1,718,076
Full-cream—			
Pounds.....	11,045,713	13,028,317	16,452,577
Value.....	\$1,588,656	\$1,800,879	\$1,676,280
Part-cream—			
Pounds.....	686,522	76,220	.....
Value.....	\$64,644	\$10,984	.....
Other kinds—			
Pounds.....	1,534,910	277,623	302,279
Value.....	\$120,276	\$40,012	\$41,796
Condensed milk:			
Pounds.....	70,514,655	32,404,944	27,681,608
Value.....	\$5,200,640	\$1,924,021	\$1,644,277
Sweetened—			
Pounds.....	37,057,100	27,695,866	27,266,506
Value.....	\$2,930,006	\$1,693,030	\$1,630,730
Unsweetened and evaporated—			
Pounds.....	39,457,555	4,709,078	415,102
Value.....	\$2,270,634	\$231,591	\$13,547
All other butter, cheese, and condensed-milk factory products, value <sup>2</sup> .....	\$650,716	\$105,378	\$162,912
All other products, value.....	\$607,107	\$53,212	\$37,705

<sup>1</sup> Includes skimmed-milk cheese.

<sup>2</sup> Includes casein, sugar of milk, whey, skimmed milk and buttermilk sold.

From 1904 to 1914 the number of establishments engaged primarily in the manufacture of butter increased from 203 to 270, while the number of cheese factories decreased from 162 to 75. Nineteen condensed-milk factories were reported in 1914, as compared with 6 in 1904.

Butter was the most important product, as measured by value, in the last three censuses. The total value of butter represented 57.6 per cent of the total value of products for the industry in 1914; the corresponding percentages for 1909 were 70.3 and for 1904, 53.7. The output of cheese decreased in quantity but increased in value from 1904 to 1909, while from 1909 to 1914 it decreased in both quantity and value. The total output of condensed milk shows large increases during the decade, both in quantity and value, having increased by 48,833,047 pounds, or 176.4 per cent, in quantity, and by \$3,556,363, or 216.3 per cent, in value.

The proportions which the value of these three classes of products for the state formed of the corresponding totals for the United States in 1914, were as follows: Butter, 5.1 per cent; cheese, 3.9 per cent; and condensed milk, 8.7 per cent. Measured by value of products, Michigan held sixth place among the states in the manufacture of butter; third place, in the manufacture of cheese; and fourth, in the manufacture of condensed milk.

**Paper and wood pulp.**—Table 29 shows the quantity and cost of the principal materials used and the quantity and value of the various products, as reported at the censuses of 1914, 1909, and 1904. The table also gives the number and daily capacity of the paper machines used and the yearly capacity of both pulp and paper mills.

Table 29	1914	1909	1904
<b>MATERIALS.</b>			
Total cost.....	\$14,544,945	\$9,024,595	\$4,581,471
Pulp wood:			
Cords.....	182,314	132,846	82,386
Cost.....	\$1,270,466	\$858,230	\$486,748
Wood pulp, purchased:			
Tons.....	78,488	60,750	35,879
Cost.....	\$3,160,096	\$2,405,975	\$1,209,198
Ground—			
Tons.....	17,511	15,320	9,712
Cost.....	\$357,006	\$384,489	\$191,713
Sulphite fiber—			
Tons.....	42,765	29,070	15,197
Cost.....	\$2,022,035	\$1,329,972	\$630,761
Other chemical fiber—			
Tons.....	18,212	16,360	10,970
Cost.....	\$781,055	\$691,514	\$446,724
Rags, including cotton and flax waste and sweepings:			
Tons.....	16,006	11,939	8,192
Cost.....	\$425,935	\$383,886	\$199,937
Old and waste paper:			
Tons.....	200,370	114,497	60,417
Cost.....	\$3,419,791	\$2,193,302	\$1,058,014
All other materials, including fuel, cost..	\$6,268,657	\$3,183,202	\$1,567,574
<b>PRODUCTS.</b>			
Total value.....	\$22,049,990	\$13,922,124	\$7,340,631
Book, cover, plate, and coated paper:			
Tons.....	118,991	85,048	52,048
Value.....	\$10,075,238	\$6,490,865	\$3,628,967
Wrapping paper:			
Tons.....	59,873	50,328	32,654
Value.....	\$3,427,732	\$2,799,583	\$1,565,861
Boards:			
Tons.....	109,360	56,342	26,382
Value.....	\$3,633,395	\$1,866,436	\$812,781
Writing and all other fine paper:			
Tons.....	17,463	5,032	2,647
Value.....	\$1,880,801	\$705,772	\$250,062
All other paper:			
Tons.....	36,935	36,411	14,606
Value.....	\$1,092,933	\$1,709,006	\$611,053
Wood pulp made for sale or for consumption in mills other than where produced:			
Tons.....	16,464	8,199	11,158
Value.....	\$549,081	\$300,948	\$407,286
All other products, value.....	\$790,860	\$40,514	\$58,621
Wood pulp produced (including that used in mills where manufactured), total tons.....	81,451	65,331	38,612
Ground, tons.....	17,280	12,273	14,079
Sulphite fiber, tons.....	53,358	53,058	24,533
Other chemical fiber, tons.....	10,813		
<b>EQUIPMENT.</b>			
Paper machines:			
Total number.....	81	68	55
Capacity, yearly, tons.....	430,077	301,345	181,108
Fourdrinier—			
Number.....	55	43	34
Capacity per 24 hours, tons.....	809	573	444
Cylinder—			
Number.....	26	25	21
Capacity per 24 hours, tons.....	619	321	185
Pulp equipment:			
Grinders, number.....	19	17	20
Digesters, number.....	20	27	24
Capacity, yearly, tons of pulp, total.....	93,186	74,932	46,410
Mechanical, tons.....	24,510	18,303	25,810
Chemical, tons.....	68,676	56,629	20,600

Michigan ranked seventh among the states in the manufacture of paper and wood pulp in 1914, as compared with eighth in 1909. Of the 37 paper and pulp mills in the state in 1914, 1 was engaged exclusively in the manufacture of wood pulp, 28 made paper only, and 8 produced both pulp and paper.

The cost of pulp wood shows an increase of \$412,236, or 48 per cent, for the five-year period 1909–1914, as compared with \$371,482, or 76.3 per cent, between 1904 and 1909. In accepting these figures allowance should be made for the increase in the price of the wood during the decade. In 1914 a total of 182,314 cords of pulp wood were used in the industry, of which hemlock formed 43.5 per cent; spruce, 33.9 per cent; balsam fir and other kinds of wood, 11.1 per cent; and slabs and other mill waste, 11.5 per cent.

The wood pulp purchased increased 17,738 tons, or 29.2 per cent, in quantity, and \$754,121, or 31.3 per cent, in cost, from 1909 to 1914. Sulphite fiber was the principal kind of pulp purchased, forming 54.5 per cent of the total quantity purchased in 1914, as compared with 47.9 per cent in 1909 and 42.4 per cent in 1904. Nearly twice the quantity of rags were used in 1914 as in 1904, and the quantity of waste paper was more than three times as great in 1914 as in 1904.

Book paper was the principal product of the industry in 1914, as well as in the two preceding censuses. In 1914 its value constituted 45.7 per cent of the total for all products, as compared with 46.7 per cent in 1909 and 49.4 per cent in 1904. Among the other paper products, the largest increase in value from 1909 to 1914 was in that reported for boards, the value of which represented 16.5 per cent of the total value of products. The total production of wood pulp manufactured in the state in 1914, which includes that used in the mills where it was made, increased 110.9 per cent from 1904 to 1914. Sulphite fiber was the principal kind of pulp produced at each census.

The number of paper machines increased from 55 in 1904 to 81 in 1914, while their annual capacity increased 248,969 tons, or 137.5 per cent, during the same time. Fourdrinier machines formed considerably more than one-half of the total number at each census. The cylinder machines are generally used in the manufacture of tissue paper, boards, and certain other special kinds of paper. The number of pulp grinders and their yearly capacity increased slightly from 1909 to 1914. The number of digesters increased from 24 in 1904 to 29 in 1914, and their yearly capacity increased 48,076 tons, or 233.4 per cent, during the same period.

**Slaughtering and meat packing.**—Table 30 gives the quantity and value of the leading products manufactured in 1914, 1909, and 1904. Cured beef, lard compounds and substitutes, tallow, soap stock, oleo-margarine, sausage casings, and fertilizer materials are included in "all other products," to avoid the possible disclosure of the operations of individual establishments. These figures do not include those for establishments engaged primarily in the manufacture of sausage.

Table 30	1914	1909	1904
Products, total value.....	\$20,665,737	\$12,842,201	\$8,193,280
Fresh meat:			
Beef—			
Pounds.....	28,050,744	24,099,494	12,149,200
Value.....	\$3,517,274	\$1,931,128	\$850,668
Veal—			
Pounds.....	2,800,785	2,603,074	992,370
Value.....	\$408,809	\$309,568	\$83,703
Mutton and lamb—			
Pounds.....	4,782,158	3,509,894	2,350,900
Value.....	\$608,761	\$363,474	\$199,644
Pork—			
Pounds.....	30,382,616	16,479,567	9,909,375
Value.....	\$5,232,513	\$2,014,770	\$839,370
Pork, pickled and other cured:			
Pounds.....	43,017,100	36,145,040	30,277,890
Value.....	\$5,697,111	\$4,707,180	\$3,003,527
Sausage:			
Pounds.....	8,409,965	8,174,244	3,022,472
Value.....	\$1,103,762	\$804,620	\$219,210
Lard:			
Pounds.....	27,342,302	13,351,255	8,146,572
Value.....	\$2,744,866	\$1,859,703	\$624,370
Hides and pelts:			
Cattle—			
Number.....	62,035		
Pounds.....	3,457,996		
Value.....	\$531,873	57,635	26,455
Calf—			
Number.....	9,716	2,982,942	1,619,500
Pounds.....	118,828	\$365,080	\$131,686
Value.....	\$20,772		
Sheep—			
Number.....	125,534	88,285	44,510
Value.....	\$128,392	\$94,862	\$39,056
All other products, value.....	\$671,604	\$391,816	\$202,046

The slaughtering and meat-packing industry has made large gains in Michigan during the past few years, the total value of products in 1914 being more than three times that reported in 1904. The combined value of fresh and cured pork, the most important products in 1914, represented 52.9 per cent of the total for the industry, as compared with 52.4 per cent in 1909. The most noticeable increase reported was in lard, which more than doubled in quantity in 1914, as compared with 1909. All of the other enumerated products show gains, both in quantity and value, for each five-year period.

**Beet sugar.**—The following table shows the quantity of beets used and the quantity and value of the different products made from sugar beets of domestic growth for 1914, 1909, and 1904.

Table 31	1914	1909	1904
Beets used, tons.....	862,053	816,609	535,508
Products, total value.....	\$11,023,058	\$10,476,876	\$5,378,004
Sugar:			
Granulated—			
Tons.....	111,570	103,864	59,966
Value.....	\$9,944,717	\$9,756,587	\$5,184,031
Raw—			
Tons.....	305	551	2,016
Value.....	\$22,239	\$41,404	\$120,109
Molasses and sirup:			
Gallons.....	4,133,121	5,016,748	1,081,131
Value.....	\$277,266	\$337,200	\$21,741
Pulp, value.....	\$778,836	\$339,025	\$45,414
All other products, value.....		\$2,660	\$6,709

In 1914 Michigan ranked third in value of products among the states producing beet sugar (being exceeded by Colorado and California), and reported products valued at \$11,023,058, which represented 17.6 per cent of the total production in the United States.

The quantity of beets used increased from 535,508 tons in 1904 to 816,609 tons in 1909 and 862,053 tons in 1914. In 1914, 99,214 acres were required to grow the 862,053 tons of beets used in the manufacture of sugar. Only 53 acres of this land were owned or operated by the factories.

Practically the entire production was granulated sugar, which constituted 90.2 per cent of the total value of products in 1914, as compared with 93.1 per cent in 1909 and 96.4 per cent in 1904. The quantity of raw sugar produced shows a decrease from 2,016 tons in 1904 to 551 tons in 1909 and to 305 tons in 1914.

Molasses and sirup, which in 1914 amounted to 4,133,121 gallons, valued at \$277,266, were inferior products, from which nearly all the sugar had been extracted, and were used mostly in the manufacture of feed for cattle.

**Carriages and wagons and materials.**—Table 32 shows the kind, number, and value of the different kinds of vehicles manufactured in 1914, 1909, and 1904.

Table 32	1914	1909	1904
Products, total value.....	\$3,774,827	\$10,158,883	\$14,889,457
Carriages (family and pleasure):			
Number.....	25,265	91,558	174,889
Value.....	\$1,424,549	\$4,453,090	\$7,784,444
Wagons (business, farm, etc.):			
Number.....	11,454	28,720	52,273
Value.....	\$730,293	\$1,586,172	\$2,352,958
Public conveyances:			
Number.....	2	201	120
Value.....	\$400	\$118,490	\$116,026
Sleighs and sleds:			
Number.....	12,205	32,751	53,180
Value.....	\$307,987	\$570,207	\$977,822
All other products, including parts, and amount received for repair work, value.....	\$1,311,618	\$3,430,924	\$3,658,207

<sup>1</sup> Includes 143 automobiles, valued at \$179,819, manufactured by establishments devoted primarily to the manufacture of carriages and wagons.

The extraordinary development of the automobile industry, particularly in this state, is the direct cause of the large decline in the carriage and wagon industry. There has been a decrease in the total value of products at each successive census, the decrease from 1904 to 1909 being \$4,730,574, or 31.8 per cent, and from 1909 to 1914, \$6,384,056, or 62.8 per cent. Each class of vehicles shown decreased, both in number and value, at each census. During the decade the greatest absolute decrease was in family and pleasure carriages, the number decreasing 149,624, or 85.6 per cent, and their value, \$6,359,895, or 81.7 per cent, while the greatest relative decrease was in number and value of public conveyances, 98.3 per cent and 99.7 per cent, respectively.

**Laundries.**—Statistics for power laundries are not included in the general tables or in the totals for all manufacturing industries. Table 33, however, summarizes these statistics for Michigan for 1914 and 1909.

In 1914 Michigan ranked ninth among the states in amount received for work done and eighth in the number of persons engaged in the industry. This table shows increases in all items, with the exception



of the amount paid for contract work, which shows a decrease of \$2,516, or 78.8 per cent. Receipts for work done increased 56.8 per cent; number of wage earners, 31.5 per cent; and amount paid to wage earners, 62.8 per cent. Establishments owned by individuals reported \$1,019,899, or 19.9 per cent of the amount received for work done; those owned by corporations, \$2,616,599, or 51.2 per cent; and those under other forms of ownership, \$1,478,788, or 28.9 per cent.

**Table 33**

	POWER LAUNDRIES.		
	Number or amount.		Per cent of increase, <sup>1</sup> 1909-1914.
	1914	1909	
Number of establishments.....	234	219	6.8
Persons engaged.....	5,637	4,328	30.2
Proprietors and firm members.....	270	249	8.4
Salaried employees.....	465	350	32.9
Wage earners (average number).....	4,902	3,729	31.5
Primary horsepower.....	6,457	4,071	58.6
Capital.....	\$3,172,343	\$2,009,251	57.9
Salaries and wages.....	2,619,284	1,602,951	63.4
Salaries.....	458,146	275,133	66.5
Wages.....	2,161,118	1,327,818	62.8
Paid for contract work.....	675	3,191	-78.8
Rent and taxes.....	151,940	89,333	70.1
Cost of materials.....	928,502	621,786	49.3
Amount received for work done.....	5,115,286	3,261,841	56.8

<sup>1</sup> A minus sign (-) denotes decrease.

Table 34 shows, for 1914 and 1909, the number of wage earners employed in the laundries on the 15th of each month, or the nearest representative day, and the percentage which this number represents of the greatest number employed in any month of the same year.

Table 35 gives statistics as to the kinds and amounts of power used in the laundries of the state in 1914 and 1909, together with percentages of increase for the five-year period.

Table 36 shows the kinds and quantities of fuel used in the laundries, as reported at the censuses of 1914 and 1909, with percentages of increase.

**Table 34**

MONTH.	WAGE EARNERS.			
	Number.		Per cent of maximum.	
	1914	1909	1914	1909
January.....	4,738	3,434	90.3	83.8
February.....	4,691	3,423	89.4	83.6
March.....	4,731	3,463	90.2	84.5
April.....	4,793	3,567	91.4	87.1
May.....	4,854	3,639	92.5	88.8
June.....	5,045	3,821	96.2	93.3
July.....	5,230	4,066	99.7	99.3
August.....	5,245	4,096	100.0	100.0
September.....	5,110	3,987	97.4	97.3
October.....	4,899	3,795	93.4	92.7
November.....	4,738	3,726	90.3	91.0
December.....	4,757	3,732	90.7	91.1

**Table 35**

KIND.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.		
			Amount.		Per cent of increase, <sup>1</sup> 1909-1914
	1914	1909	1914	1909	
Primary power, total.....	417	279	6,457	4,071	58.6
Owned.....	178	189	5,491	3,638	50.9
Steam.....	163	163	5,429	3,537	53.5
Internal-combustion engines.....	15	25	62	100	-38.0
Water motors.....		1		1	
Rented.....	239	90	966	433	123.1
Electric.....	239	90	966	430	124.7
Other.....				3	
Electric.....	396	191	1,335	874	52.7
Rented.....	239	90	966	430	124.7
Generated by establishments reporting.....	157	101	369	444	-16.9

<sup>1</sup> A minus sign (-) denotes decrease.

**Table 36**

KIND.	Unit.	QUANTITY.		Per cent of increase, <sup>1</sup> 1909-1914
		1914	1909	
Anthracite coal.....	Tons, 2,240 lbs.....	1,777	854	108.1
Bituminous coal.....	Tons, 2,000 lbs.....	58,417	43,090	35.6
Coke.....	Tons, 2,000 lbs.....	318	361	-11.9
Oil.....	Barrels.....	216	640	-66.2
Gas.....	1,000 cubic feet.....	14,601	14,931	-2.5

<sup>1</sup> A minus sign (-) denotes decrease.

### GENERAL TABLES.

Table 37 gives, for 1914, 1909, and 1904, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products, for selected industries in the state and in the cities having 50,000 inhabitants or more; and for the cities having from 10,000 to 50,000 inhabitants, similar data for all industries combined.

Table 38 presents, for 1914, in the state as a whole and in cities with 50,000 inhabitants or more, statistics in detail for each industry that can be shown without disclosing the operations of individual establishments; and for the cities having from 10,000 to 50,000 inhabitants, for all industries combined.

## MANUFACTURES.

TABLE 37.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.															
Expressed in thousands.																														
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.																														
All industries.....	1914	8,724	271,090	764,183	\$182,252	\$592,801	\$1,086,162	Coffins, burial cases, and undertakers' goods.	1914	23	540	1,077	\$315	\$648	\$1,355															
	1909	9,159	231,499	598,288	118,968	368,612	685,109		1909	18	439	711	208	493	1,085															
	1904	7,446	175,229	440,890	81,279	230,081	429,120		1904	16	630	982	301	525	1,225															
Agricultural implements	1914	30	2,143	5,941	1,456	2,640	7,731	Confectionery.....	1914	64	993	1,157	448	1,820	3,040															
	1909	32	2,359	5,195	1,261	2,890	9,273		1909	56	1,052	812	361	1,797	2,944															
	1904	42	3,164	5,986	1,688	3,497	8,720		1904	44	783	616	232	1,033	1,699															
Artificial stone products..	1914	217	483	1,253	306	400	1,060	Cooperage and wooden goods, not elsewhere specified.	1914	82	1,967	7,316	912	2,063	3,839															
	1909	191	514	634	255	349	908		1909	101	2,642	8,500	1,016	2,004	3,989															
	1904	27	67	38	35	43	119		1904	98	2,614	7,205	958	1,794	3,893															
Automobiles, including bodies and parts.	1914	205	67,538	79,379	57,792	219,215	398,289	Copper, tin, and sheet- iron products.	1914	162	2,397	2,739	1,437	2,807	5,650															
	1909	113	25,444	25,938	15,491	53,882	96,651		1909	152	2,386	1,875	1,122	2,545	4,929															
	1904	33	2,735	1,800	1,263	3,443	7,997		1904	67	1,570	1,445	687	1,396	2,889															
Awnings, tents, and sails..	1914	24	154	45	104	261	502	Corsets.....	1914	16	2,149	959	873	1,899	4,982															
	1909	17	129	44	67	199	349		1909	14	2,461	734	835	1,877	4,308															
	1904	5	74	14	32	98	197		1904	11	1,378	316	469	700	1,975															
Baskets, and rattan and willow ware.	1914	13	238	574	113	285	537	Cutlery and tools, not elsewhere specified.	1914	28	453	1,194	320	387	965															
	1909	18	373	900	159	174	480		1909	37	668	1,379	307	384	1,124															
	1904	22	405	655	160	147	435		1904	30	433	802	193	262	730															
Boots and shoes.....	1914	24	2,035	1,596	932	3,181	5,357	Electrical machinery, ap- paratus, and supplies.	1914	35	1,144	1,584	656	1,740	3,416															
	1909	23	2,455	786	936	3,347	5,256		1909	40	1,218	1,355	494	1,030	2,427															
	1904	23	1,723	649	681	2,016	3,531		1904	14	529	379	177	294	702															
Boxes, fancy and paper...	1914	23	1,461	5,935	748	2,131	3,748	Flour-mill and gristmill products.	1914	427	1,370	35,321	860	23,299	27,381															
	1909	19	1,326	1,564	447	1,618	2,653		1909	520	1,530	38,991	806	29,359	34,861															
	1904	22	836	558	230	431	913		1904	405	1,608	34,755	767	23,414	26,512															
Brass, bronze, and copper products.	1914	64	4,731	14,251	3,030	11,473	16,869	Food preparations, not elsewhere specified.	1914	56	1,683	9,760	1,110	7,039	16,005															
	1909	60	4,771	11,622	2,450	8,993	13,890		1909	49	1,303	8,983	724	4,750	11,492															
	1904	136	2,029	2,036	936	1,703	3,695		1904	55	1,041	6,499	490	2,256	6,754															
Bread and other bakery products.	1914	922	4,014	3,479	2,459	9,308	16,000	Foundry and machine- shop products.	1914	705	26,497	52,085	18,992	27,120	64,578															
	1909	816	2,637	1,953	1,444	6,671	11,082		1909	654	21,649	34,152	12,344	18,711	45,399															
	1904	614	2,194	1,201	1,032	3,853	7,116		1904	1,452	16,396	21,278	8,657	14,086	31,434															
Brick, tile, pottery, and other clay products.	1914	102	2,194	11,505	1,245	1,058	3,174	Fur goods.....	1914	35	380	503	183	818	1,680															
	1909	151	1,771	8,772	892	649	2,293		1909	31	619	232	267	984	2,284															
	1904	175	1,639	8,519	752	469	1,941		1904	20	635	350	242	1,036	1,771															
Butter, cheese, and con- densed milk.	1914	364	1,367	6,659	863	18,463	21,550	Furniture and refriger- ators.	1914	202	16,267	28,204	9,488	14,361	33,867															
	1909	435	1,073	4,776	554	12,377	14,287		1909	202	16,610	27,485	8,300	11,718	28,642															
	1904	371	875	3,794	432	7,027	8,209		1904	142	14,565	19,812	6,468	8,640	20,502															
Canning and preserving...	1914	91	2,507	4,791	944	4,893	8,194	Gas and electric fixtures and lamps.	1914	13	597	993	445	936	2,094															
	1909	104	2,073	3,374	665	3,074	4,971		1909	20	395	386	219	642	1,546															
	1904	134	2,022	2,636	521	2,374	3,817		1904	13	76	45	37	243	496															
Carriages and wagons and materials.	1914	177	1,417	2,739	982	1,928	3,775	Gas, illuminating and heating.	1914	59	2,349	34,985	1,584	3,356	10,441															
	1909	212	4,084	6,362	2,240	5,262	10,159		1909	55	1,771	6,055	1,096	2,129	6,748															
	1904	218	6,400	8,411	3,053	8,440	14,889		1904	46	1,287	2,379	575	1,120	3,866															
Carriages and sleds, chil- dren's.	1914	8	462	598	224	443	970	Hosiery and knit goods...	1914	34	2,714	3,373	1,006	2,610	5,233															
	1909	9	555	484	214	257	682		1909	35	2,545	3,291	769	2,047	4,029															
	1904	8	242	409	84	150	337		1904	38	3,085	2,501	769	1,844	3,624															
Cars and general shop construction and repairs by electric-railroad com- panies.	1914	18	885	413	629	632	1,326	Ice, manufactured.....	1914	11	443	4,433	389	128	765															
	1909	15	574	1,704	318	949	1,301		1909	5	87	1,959	77	40	199															
	1904	4	424	225	246	313	588	Iron and steel, blast fur- naces.	1914	12	991	14,045	782	3,877	5,450															
Cars and general shop construction and repairs by steam-railroad com- panies.	1914	26	5,803	8,595	3,905	3,264	7,569		1909	11	1,016	17,403	632	4,224	5,824															
	1909	32	5,401	5,742	3,500	2,916	6,838		1904	11	1,139	7,491	588	3,104	4,044															
	1904	34	4,435	4,153	2,497	2,599	5,369	Iron and steel, steel works and rolling mills.	1914	9	718	4,688	493	871	1,716															
Cement.....	1914	11	1,340	24,158	975	2,408	4,529		1909	8	1,183	4,290	661	1,598	2,670															
	1909	13	1,308	21,773	826	1,403	2,915		1904	5	1,018	4,630	527	1,800	2,712															
	1904	13	1,029	18,593	669	909	2,560	Iron and steel forgings....	1914	11	552	1,532	476	807	1,493															
Chemicals.....	1914	36	4,509	45,944	3,405	6,373	13,891		1909	4	307	483	182	240	602															
	1909	36	3,174	26,594	2,012	5,072	12,890	Leather goods.....	1914	103	675	462	379	1,413	2,426															
	1904	14	3,333	22,860	1,848	4,403	9,037		1909	57	834	760	434	1,458	2,560															
Clothing, men's, includ- ing shirts.	1914	39	2,502	1,075	1,094	2,996	5,306		1904	45	630	342	339	760	1,389															
	1909	40	3,580	1,151	1,221	3,389	6,532	Leather, tanned, curried, and finished.	1914	23	2,773	6,787	1,739	20,982	25,504															
	1904	43	2,520	981	717	2,526	4,203		1909	24	2,291	6,719	1,133	12,121	15,331															
Clothing, women's.....	1914	32	1,672	552	715	1,194	2,661		1904	25	1,747	4,391	866	7,271	9,340															
	1909	52	2,194	581	745	1,710	3,587	Liquors, malt.....	1914	70	2,097	13,039	1,703	4,328	15,041															
	1904	44	2,043	922	658	1,731	3,629		1909	79	1,527	9,219	1,073	2,421	9,840															
Coffee, roasting and grind- ing.	1914	16	88	205	50	1,316	1,618		1904	86	1,271	7,613	864	1,094	6,999															
	1909	12	76	273	40	680	933	Lumber and timber prod- ucts.	1914	748	28,527	112,584	15,195	29,356	58,523															
	1904	4	16	74	8	99	133		1909	1,180	35,627	133,739	16,298	29,042	61,514															
									1904	1,058	34,193	119,485	15,995	24,729	57,217															

<sup>1</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>2</sup> Includes "sand-lime brick."

<sup>3</sup> Includes "canning and preserving, fish;" "canning and preserving, fruits and vegetables;" and "pickles, preserves, and sauces."

<sup>4</sup> Includes "stamped and enameled ware, not elsewhere specified," and "tinware, not elsewhere specified."

<sup>5</sup> Includes "automobile repairing;" "engines, steam, gas, and water;" "gas machines and gas and water meters;" "hardware;" "plumbers' supplies, not elsewhere specified;" "pumps, steam and other power;" "steam fittings and steam and hot-water heating apparatus;" and "structural ironwork, not made in steel works or rolling mills."

<sup>6</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>7</sup> Includes "saddlery and harness" and "trunks and valises."

<sup>8</sup> Includes "boxes, wooden packing;" "lumber, planing-mill products, not including planing mills connected with sawmills;" "pulp wood;" and "window and door screens and weather strips."

TABLE 37.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
Marble and stone work...	1914	111	461	1,644	\$390	\$637	\$1,561	Slaughtering and meat packing.	1914	36	1,181	3,275	\$815	\$19,283	\$21,267
	1909	113	551	1,570	393	592	1,504		1909	45	902	3,404	481	11,666	13,435
	1904	73	436	872	287	400	1,088		1904	26	499	959	265	5,629	6,356
Mattresses and spring beds.	1914	23	278	517	162	519	877	Soap.....	1914	11	78	245	49	362	522
	1909	14	306	508	140	407	639		1909	8	68	382	37	354	536
	1904	12	194	377	93	331	514		1904	11	131	477	55	497	800
Mineral and soda waters..	1914	120	391	814	246	819	1,696	Springs, steel, car and carriage, not made in steel works or rolling mills.	1914	6	638	1,000	472	1,183	2,175
	1909	97	252	506	138	368	910		1909	5	538	908	309	558	1,308
	1904	84	174	88	102	170	502		1904	6	323	572	128	282	541
Mirrors, framed and unframed.	1914	8	189	442	114	342	541	Stoves and furnaces, including gas and oil stoves.	1914	27	4,074	5,916	2,988	3,715	10,757
	1909	8	232	303	128	375	659		1909	33	4,432	5,910	2,832	2,816	9,123
	1904	8	232	303	128	375	659		1904	27	4,472	4,589	2,491	2,737	8,026
Musical instruments, pianos and organs and materials.	1914	17	1,070	1,927	677	1,259	2,682	Sugar, beet.....	1914	10	1,328	10,306	932	6,244	11,023
	1909	17	1,779	2,690	1,075	2,009	4,226		1909	11	1,460	8,854	910	6,228	10,477
	1904	13	1,069	1,310	537	750	1,984		1904	19	1,211	8,766	581	3,761	5,378
Oil, essential.....	1914	53	38	619	17	226	492	Tobacco manufactures....	1914	626	9,075	5,143	3,779	8,963	20,667
	1909	23	54	365	17	415	485		1909	729	7,876	937	3,076	7,208	16,179
	1904	6	13	11	8	166	240		1904	706	6,428	1,156	2,467	4,847	11,864
Paper and wood pulp.....	1914	37	6,051	62,528	3,559	14,545	22,050	Toys and games.....	1914	7	251	198	149	246	529
	1909	32	4,327	48,700	2,142	9,025	13,922		1909	8	279	994	135	174	432
	1904	30	3,052	31,357	1,306	4,581	7,341		1904	5	169	318	70	81	253
Paper goods, not elsewhere specified.	1914	14	750	2,009	402	2,252	3,588	Wall plaster.....	1914	13	631	4,295	421	743	2,074
	1909	18	1,131	2,580	483	1,953	3,551		1909	16	746	3,029	276	412	1,421
	1904	6	341	975	146	816	1,329		1904	8	343	2,125	157	380	842
Patent medicines and compounds, and druggists' preparations.	1914	142	3,369	2,694	1,994	7,003	16,434	Window shades and fixtures.	1914	8	702	1,149	205	983	1,755
	1909	159	3,249	2,270	1,509	4,941	13,475		1909	7	636	1,236	261	807	1,296
	1904	96	2,536	2,301	952	3,798	10,470		1904	3	225	342	85	360	508
Printing and publishing..	1914	1,113	8,166	13,033	5,602	7,498	24,953	Wirework, including wire rope and cable, not elsewhere specified.	1914	33	1,314	2,209	788	3,918	5,891
	1909	1,045	7,219	7,651	4,000	4,935	17,848		1909	37	909	1,900	428	3,446	5,235
	1904	937	5,999	5,292	2,981	3,424	12,050		1904	30	984	1,355	392	1,990	3,459
Salt.....	1914	15	1,434	8,316	991	2,067	4,421	Wood distillation.....	1914	10	645	2,644	415	1,708	2,678
	1909	27	1,363	6,628	745	1,043	3,053		1909	12	806	5,012	504	1,155	2,399
	1904	41	1,388	6,091	626	1,191	2,405		1904	9	291	366	156	351	738
Scales and balances.....	1914	3	276	298	200	208	612	Wood, turned and carved.	1914	45	576	2,901	318	339	950
	1909	4	228	310	137	229	524		1909	58	1,137	4,695	548	634	1,708
	1904	7	132	140	58	65	258		1904	74	1,226	3,897	528	589	1,567
Shipbuilding, including boat building.	1914	62	1,261	7,565	1,040	1,259	2,823	Woolen goods.....	1914	9	477	1,311	230	793	1,215
	1909	91	2,344	6,485	1,380	2,490	5,034		1909	15	554	1,900	235	863	1,571
	1904	57	1,998	4,164	1,068	1,079	2,973		1904	15	482	1,186	170	595	977
Show cases.....	1914	6	410	845	272	463	1,035	All other industries.....	1914	789	20,159	61,768	13,174	55,697	100,806
	1909	11	823	1,403	459	796	1,866		1909	784	21,169	36,918	11,095	54,638	89,850
	1904	10	617	942	314	502	1,165		1904	578	15,963	24,177	7,540	46,437	67,684

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

DETROIT—All industries.	1914	2,036	99,603	180,608	\$69,447	\$222,249	\$400,348	DETROIT—Continued. Bread and other bakery products.	1914	275	1,850	1,827	\$1,200	\$4,363	\$7,489	
	1909	2,036	81,011	114,190	43,007	130,218	252,939		1909	265	1,108	1,112	638	2,897	4,826	
	1904	1,362	48,483	.....	22,558	66,581	128,247		1904	159	874	.....	424	1,566	2,932	
Automobiles, including bodies and parts.	1914	122	33,439	39,458	26,368	101,382	164,076	Brick, tile, pottery, and other clay products.	1914	8	160	864	110	95	269	
	1909	68	15,675	14,666	9,621	31,363	59,536		1909	13	220	625	129	90	329	
	1904	19	2,034	.....	959	2,631	6,240		1904	6	32	.....	18	15	55	
Awnings, tents, and sails.	1914	8	114	22	80	172	336	Carriages and wagons and materials.	1914	27	255	286	182	275	560	
	1909	7	100	20	54	133	238		1909	34	263	188	164	189	507	
	1904	3	60	.....	25	71	152		1904	25	884	.....	403	794	1,515	
Boots and shoes.....	1914	6	965	531	430	1,014	2,255	Clothing, men's, including shirts.	1914	20	1,682	812	765	2,273	3,897	
	1909	8	1,327	362	491	1,702	2,744		1909	22	2,786	951	963	2,352	4,761	
	1904	8	926	.....	400	1,117	2,039		1904	28	1,560	.....	472	1,791	2,957	
Boxes, cigar.....	1914	4	256	205	99	140	279	Clothing, women's.....	1914	19	1,070	229	484	595	1,406	
	1909	4	249	164	76	111	238		1909	27	921	154	357	661	1,494	
	1904	4	202	.....	62	86	184		1904	15	708	.....	233	694	1,168	
Boxes, fancy and paper...	1914	11	352	193	144	189	491	Coffee, roasting and grinding.	1914	5	40	143	29	791	965	
	1909	7	366	142	115	148	382		1909	6	41	186	24	452	617	
	1904	8	415	.....	97	115	313									
Brass, bronze, and copper products.	1914	38	3,880	13,074	2,485	10,296	14,630	Coffins, burial cases, and undertakers' goods.	1914	7	021	170	67	128	275	
	1909	37	4,032	10,661	2,049	8,273	12,297		1909	5	95	148	56	117	268	
	1904	23	2,032	.....	987	3,429	5,682		1904	5	129	.....	63	138	285	

1 Includes "envelopes."

2 Excludes statistics for two establishments, to avoid disclosure of individual operations.

3 Includes "perfumery and cosmetics."

4 Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithographing."

5 Excludes statistics for one establishment, to avoid disclosure of individual operations.

6 Includes "sausage."

7 Figures do not agree with those published in 1909 because certain establishments revised their reports for that census.

8 Includes "sand-lime brick."

## MANUFACTURES.

TABLE 37.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of ma- te-ri- als.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of ma- te-ri- als.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
DETROIT—Continued.								DETROIT—Continued.							
Confectionery.....	1914	32	460	616	\$230	\$884	\$1,486	Photo-engraving.....	1914	9	104	61	\$105	\$35	\$282
	1909	23	387	341	139	629	1,136		1909	7	153	116	116	60	351
	1904	16	387	.....	115	517	845		1904	6	160	.....	126	49	299
Copper, tin, and sheet- iron products.	1914	168	1,957	2,106	1,163	2,108	4,369	Pickles, preserves, and sauces.	1914	13	460	417	198	1,379	1,974
	1909	72	1,932	1,453	851	1,932	3,534		1909	9	408	549	157	855	1,568
	1904	28	1,256	.....	508	1,117	2,258		1904	8	609	.....	174	1,144	1,788
Cutlery and tools, not elsewhere specified.	1914	17	330	837	252	213	651	Printing and publishing..	1914	265	3,472	7,098	2,629	4,044	13,168
	1909	19	259	719	139	154	466		1909	224	2,519	2,602	1,570	2,044	7,291
	1904	25	72	.....	32	61	146		1904	155	1,920	.....	1,114	1,410	4,855
Electrical machinery, ap- paratus, and supplies.	1914	20	591	1,097	334	1,223	2,240	Slaughtering and meat packing.	1914	13	1,102	3,047	761	18,489	20,321
	1909	23	541	575	226	493	1,148		1909	29	811	3,092	433	11,221	12,850
	1904	8	90	.....	35	65	191		1904	11	420	.....	222	4,753	5,350
Emery and other abrasive wheels.	1914	3	78	164	43	123	225	Soap.....	1914	5	51	161	34	318	450
	1909	4	102	155	61	155	284		1909	4	54	858	33	320	483
	1904	3	59	.....	37	31	135		1904	6	90	.....	38	316	515
Food preparations, not elsewhere specified.	1914	13	181	1,841	91	1,779	2,067	Stoves and furnaces, in- cluding gas and oil stoves.	1914	8	2,362	3,358	1,748	1,788	5,021
	1909	11	48	562	29	526	652		1909	8	2,808	2,741	1,809	1,570	5,676
	1904	9	73	.....	30	417	613		1904	6	3,122	.....	1,814	1,751	5,565
Foundry and machine- shop products.	1914	221	11,250	20,210	8,558	12,351	29,465	Tobacco manufactures....	1914	157	7,131	5,036	2,864	7,309	17,044
	1909	215	8,694	10,336	4,528	7,614	18,243		1909	198	5,883	925	2,177	5,869	12,773
	1904	125	6,341	.....	3,396	6,186	13,647		1904	225	4,002	.....	1,341	3,301	7,727
Fur goods.....	1914	18	207	190	155	626	1,102	Wirework, including woven-wire fencing.	1914	10	206	177	108	166	424
	1909	19	371	24	181	707	1,738		1909	12	207	175	81	127	357
	1904	10	268	.....	130	677	1,121		1904	11	277	.....	93	149	322
Furnishing goods, men's..	1914	6	70	36	27	98	148	All other industries.....	1914	323	15,775	52,042	11,270	29,888	60,880
	1909	8	337	118	110	158	360		1909	358	17,875	39,178	9,844	31,691	59,846
	1904	3	241	.....	61	85	200		1904	239	11,107	.....	5,418	20,597	32,925
Furniture and refrigera- tors.	1914	29	1,787	2,899	1,108	1,359	3,383	GRAND RAPIDS—	1914	594	17,427	30,393	10,296	23,995	49,792
	1909	33	2,290	3,722	1,186	1,302	3,762	All industries.	1909	524	17,590	27,676	9,217	19,736	42,281
	1904	24	1,949	.....	811	1,088	2,624		1904	388	15,514	.....	7,318	14,422	30,690
Hosiery and knit goods...	1914	9	280	245	102	365	615	Automobiles, including bodies and parts.	1914	8	87	94	61	114	250
	1909	9	334	214	91	326	559		1909	3	86	110	58	147	389
	1904	12	497	.....	129	372	720	Brass and copper products	1914	7	432	590	257	281	707
Iron and steel, steel works and rolling mills.	1914	4	456	3,489	317	561	1,117		1909	5	405	401	209	243	680
	1909	5	989	3,430	559	1,317	2,297		1904	3	356	.....	136	138	399
	1904	4	832	.....	431	1,604	2,362	Bread and other bakery products.	1914	67	441	244	227	943	1,682
Jewelry.....	1914	18	133	57	101	154	386		1909	66	361	185	185	872	1,476
	1909	9	92	28	68	43	204		1904	30	310	.....	137	613	1,178
	1904	5	55	.....	23	22	62	Butter.....	1914	6	27	126	19	621	747
Leather goods.....	1914	32	239	228	145	534	913		1909	4	16	134	12	216	249
	1909	22	403	530	211	819	1,396	Carriages and wagons and materials.....	1914	13	104	139	72	68	169
	1904	10	304	.....	168	349	632		1909	8	87	173	48	70	194
Liquors, malt.....	1914	19	1,165	6,088	1,020	2,523	9,410		1904	11	184	.....	95	231	495
	1909	18	646	3,886	405	1,185	4,942	Clothing, men's, includ- ing shirts.	1914	8	199	45	66	192	397
	1904	19	493	.....	368	795	3,272		1909	6	239	70	84	220	513
Lumber and timber prod- ucts.	1914	47	1,802	7,043	1,231	3,782	6,454		1904	6	283	.....	86	245	450
	1909	59	2,046	4,629	1,013	3,759	6,110	Copper, tin, and sheet- iron products.	1914	11	54	35	29	69	131
	1904	30	1,039	.....	554	1,196	2,167		1909	11	101	39	53	102	231
Marble and stone work...	1914	19	202	650	178	203	522		1904	5	56	.....	30	43	101
	1909	19	194	560	131	172	413	Flour-mill and gristmill products.	1914	9	107	1,537	78	2,652	3,142
	1904	12	174	.....	112	109	312		1909	8	118	1,510	72	3,045	3,781
Mineral and soda waters..	1914	19	166	148	117	240	539		1904	6	106	.....	64	2,166	2,371
	1909	13	81	85	45	113	266	Foundry and machine- shop products.	1914	61	1,532	2,831	989	1,086	3,023
	1904	11	56	.....	42	49	150		1909	49	1,532	2,107	825	1,134	2,740
Models and patterns, not including paper pat- terns.	1914	15	201	149	186	43	306		1904	33	964	.....	473	682	1,668
	1909	17	188	95	125	24	238	Furniture and refrigera- tors.	1914	67	6,991	10,253	4,353	5,719	14,940
	1904	7	68	.....	36	4	50		1909	54	7,250	10,305	3,903	4,937	12,630
Paint and varnish.....	1914	10	325	1,090	214	1,955	3,867		1904	38	6,654	.....	3,240	3,583	9,409
	1909	12	358	1,304	234	2,241	4,201	Hosiery and knit goods...	1914	4	422	251	143	565	1,064
	1904	9	386	.....	198	2,461	4,449		1909	4	216	109	74	393	647
Patent medicines and compounds and drug- gists' preparations.	1914	63	2,895	2,214	1,713	6,016	13,691	Leather, tanned, curried, and finished.	1914	3	177	620	115	1,031	1,394
	1909	74	2,818	1,819	1,828	4,304	11,558		1909	3	98	437	56	545	705
	1904	42	2,280	.....	859	3,509	9,423								

<sup>1</sup> Includes "stamped and enameled ware, not elsewhere specified," and "tinware, not elsewhere specified."

<sup>2</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>3</sup> Includes "automobile repairing," "engines, steam, gas, and water;" "gas machines and gas and water meters;" "hardware;" "plumbers' supplies, not elsewhere specified;" "pumps, steam and other power;" "steam fittings and steam and hot-water heating apparatus;" and "structural ironwork, not made in steel works or rolling mills."

<sup>4</sup> Figures do not agree with those published in 1909 because certain establishments revised their reports for that census.

<sup>5</sup> Includes "saddlery and harness" and "trunks and valises."

<sup>6</sup> Includes "boxes, wooden packing;" "lumber, planing-mill products, not including planing mills connected with sawmills;" and "window and door screens and weather strips."

<sup>7</sup> Includes "perfumery and cosmetics."

<sup>8</sup> Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithographing."

<sup>9</sup> Includes "sausage."

<sup>10</sup> Includes "automobile repairing;" "engines, steam, gas, and water;" "hardware;" "plumbers' supplies, not elsewhere specified;" "steam fittings and steam and hot-water heating apparatus;" and "structural ironwork, not made in steel works or rolling mills."

<sup>11</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

TABLE 37.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
<b>GRAND RAPIDS—Con.</b>								<b>SAGINAW—Contd.</b>							
Liquors, malt.....	1914	3	174	1,328	\$123	\$315	\$1,261	Cooperage and wooden	1914	6	429	1,415	\$183	\$663	\$1,048
	1909	3	136	725	94	168	912	goods, not elsewhere	1909	9	642	1,648	207	699	1,206
								specified.	1904	9	502	.....	174	454	918
Lumber and timber prod- ucts.	1914	116	539	2,469	345	1,240	1,925	Flour-mill and gristmill	1914	3	27	699	17	595	662
	1909	20	594	2,504	343	907	1,697	products.	1909	4	58	457	32	558	731
	1904	29	361	.....	183	607	967		1904	4	55	.....	24	551	652
Marble and stone work...	1914	7	36	151	30	43	126	Foundry and machine- shop products.	1914	618	792	2,082	565	932	2,265
	1909	6	41	77	34	39	108		1909	23	698	1,674	432	788	1,838
	1904	4	36	.....	27	49	102		1904	14	760	.....	420	918	1,884
Patent medicines and compounds and drug- gists' preparations.	1914	16	64	22	28	140	341	Furniture.....	1914	8	451	926	256	311	820
	1909	18	58	33	24	117	285		1909	12	417	896	199	326	881
	1904	8	20	.....	8	20	83		1904	5	174	.....	80	92	212
Printing and publishing..	1914	484	942	1,145	673	888	2,886	Liquors, malt.....	1914	5	84	808	71	125	499
	1909	68	832	781	489	587	2,057		1909	5	74	170	58	110	393
	1904	248	597	.....	318	357	1,292		1904	6	58	.....	39	90	297
Tobacco, cigars.....	1914	32	667	4	261	712	1,293	Lumber and timber prod- ucts.	1914	11	652	4,162	367	1,868	2,503
	1909	36	458	5	188	302	725		1909	12	696	2,682	335	1,629	2,404
	1904	34	303	.....	133	159	575		1904	213	672	.....	260	1,314	1,908
All other industries.....	1914	172	4,432	8,539	2,422	7,316	14,284	Printing and publishing..	1914	22	159	316	120	207	542
	1909	152	4,962	7,971	2,466	5,692	12,212		1909	22	164	411	100	127	428
	1904	149	5,009	.....	2,282	5,138	11,010		1904	223	146	.....	85	81	317
<b>SAGINAW—All indus- tries.</b>	1914	241	6,342	15,959	3,671	10,656	19,009	Tobacco manufactures....	1914	27	124	1	66	96	237
	1909	202	5,368	11,867	2,750	7,634	14,192		1909	27	127	.....	56	82	203
	1904	179	4,445	.....	1,981	5,367	10,079		1904	20	147	.....	68	73	214
Automobiles, including bodies and parts.	1914	7	447	445	292	687	1,300	All other industries.....	1914	116	3,028	4,970	1,644	4,794	8,531
	1909	3	255	580	131	140	386		1909	76	2,154	3,273	1,588	2,952	5,394
Bread and other bakery products.	1914	18	149	135	90	378	602		1904	76	1,878	.....	804	1,719	3,546
	1909	9	83	76	42	223	328								
	1904	9	53	.....	27	75	131								

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

<b>ADRIAN.....</b>	1914	68	1,256	2,840	\$988	\$3,783	\$5,442	<b>KALAMAZOO.....</b>	1914	213	5,525	19,548	\$3,284	\$10,947	\$20,214
	1909	80	1,059	3,211	540	4,150	6,085		1909	193	6,272	14,449	3,149	9,505	17,004
	1904								1904	157	5,666		2,562	6,896	13,142
<b>ALPENA.....</b>	1914	54	1,494	11,537	895	2,398	4,102	<b>LANSING.....</b>	1914	180	6,231	12,614	4,373	13,887	26,984
	1909	58	1,432	10,670	711	2,301	3,964		1909	169	5,285	8,720	2,707	8,802	16,587
	1904	57	1,245		534	1,684	2,905		1904	98	2,982		1,389	3,473	6,887
<b>ANN ARBOR.....</b>	1914	75	842	2,376	516	1,302	2,603	<b>MANISTEE.....</b>	1914	47	1,853	7,548	968	2,004	4,136
	1909	63	573	1,458	287	1,010	1,866		1909	64	2,125	6,811	1,019	1,280	3,344
	1904	65	549		244	774	1,386		1904	47	2,084		999	1,274	3,257
<b>BATTLE CREEK.....</b>	1914	135	4,599	17,049	3,191	8,158	23,248	<b>MARQUETTE.....</b>	1914	34	589	2,156	378	678	1,395
	1909	105	4,175	14,923	2,354	7,068	20,174		1909	35	509	1,575	313	565	1,278
	1904	120	3,389		1,886	3,984	12,298		1904	31	738		436	1,392	2,364
<b>BAY CITY.....</b>	1914	142	3,771	15,911	2,129	6,403	11,119	<b>MENOMINEE.....</b>	1914	52	1,988	6,901	1,000	2,656	5,000
	1909	182	4,737	17,872	2,118	5,647	10,294		1909	52	1,700	4,770	718	1,657	3,728
	1904	173	4,456		2,001	4,948	8,809		1904	45	1,489		705	1,373	2,974
<b>ESCANABA.....</b>	1914	45	777	2,591	469	636	1,507	<b>MUSKEGON.....</b>	1914	103	4,646	12,499	2,641	5,317	11,148
	1909	39	720	1,416	405	364	1,074		1909	101	4,522	10,436	2,107	4,938	9,648
	1904								1904	70	3,078		1,211	3,526	6,319
<b>FLINT.....</b>	1914	94	8,722	10,576	7,235	34,333	53,375	<b>PONTIAC.....</b>	1914	46	2,409	3,111	2,010	10,449	15,102
	1909	104	7,088	8,240	4,429	13,971	24,118		1909	42	1,739	2,854	1,087	3,241	5,894
	1904	70	2,161		1,041	3,769	6,177	<b>PORT HURON.....</b>	1914	89	1,296	4,400	735	2,227	4,090
<b>HOLLAND.....</b>	1914	61	2,165	3,696	1,162	5,843	8,684		1909	82	1,530	3,130	791	1,950	3,588
	1909	61	2,162	3,446	1,069	3,478	5,802		1904	74	2,136		1,107	1,747	3,715
<b>IRONWOOD.....</b>	1914	24	516	641	305	414	793	<b>SAULT STE. MARIE.....</b>	1914	44	938	2,326	621	2,352	3,821
	1909	14	201	521	88	201	377		1909	46	825	2,949	432	2,441	3,729
	1904								1904	38	895		462	1,427	2,412
<b>ISHPEMING.....</b>	1914	19	79	230	46	136	229	<b>TRAVERSE CITY.....</b>	1914	60	956	4,553	499	1,087	2,251
	1909	19	66	73	37	52	132		1909	61	1,220	4,231	444	1,183	2,289
	1904	15	73		42	142	247								
<b>JACKSON.....</b>	1914	147	4,906	9,740	3,263	9,529	16,810								
	1909	168	4,788	6,355	2,487	8,156	13,984								
	1904	147	3,967		1,838	4,272	8,348								

<sup>1</sup> Includes "lumber, planing-mill products, not including planing mills connected with sawmills" and "window and door screens and weather strips."

<sup>2</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>3</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>4</sup> Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithographing."

<sup>5</sup> Figures do not agree with those published because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

<sup>6</sup> Includes "engines, steam, gas, and water."

<sup>7</sup> In 1904 the statistics for West Bay City, which was annexed in 1905, are included.

## MANUFACTURES.

TABLE 38.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Fe-male.	Average number.	Number, 15th day of—			Male.	Fe-male.	Male.		Fe-male.
								Maximum month.	Minimum month.						

## THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

1	All industries.....	8,724	320,611	7,725	9,738	22,928	9,130	271,090	Mh 282,176	De 249,777	( <sup>1</sup> )	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )	\$869,143,114
2	Agricultural implements.....	30	2,671	16	92	324	90	2,143	Mh 2,611	Se 1,338	1,881	1,873	8	.....	.....	13,150,786
3	Artificial limbs.....	5	18	3	1	5	1	8	( <sup>1</sup> )	8	9	8	1	.....	.....	11,017
4	Artificial stone products.....	217	775	236	35	18	3	483	Je <sup>5</sup> 658	Fe 240	599	598	.....	.....	.....	824,724
5	Automobile bodies and parts.....	140	26,858	43	546	1,115	418	24,736	Ap 27,735	De 22,164	24,408	23,843	523	38	4	41,934,468
6	Automobiles.....	65	48,565	6	871	3,682	1,204	42,802	Mh 46,689	Jy 36,854	41,695	40,802	852	38	3	160,472,589
7	Automobile repairing.....	65	244	70	9	9	5	151	.....	.....	169	167	2	.....	.....	313,894
8	Repair work.....	53	224	57	9	8	5	145	Je <sup>5</sup> 157	Ja 123	163	161	2	.....	.....	299,384
9	Vulcanizing.....	12	20	13	.....	1	.....	6	Jy <sup>5</sup> 9	Ja <sup>5</sup> 3	6	6	.....	.....	.....	14,510
10	Awnings, tents, and sails.....	24	238	20	27	32	5	154	Je 220	De 116	124	84	40	.....	.....	235,533
11	Baskets, and rattan and willow ware.....	13	271	13	11	6	3	238	An 398	Do 97	301	260	40	1	.....	362,807
12	Blacking, stains, and dressings.....	3	8	3	.....	1	.....	4	( <sup>1</sup> )	4	4	.....	1	.....	.....	1,900
13	Bookbinding and blank-book making.....	23	559	20	25	21	24	469	Mh 522	De 394	404	229	160	3	7	921,266
14	Boots and shoes.....	24	2,271	10	57	84	85	2,035	.....	.....	1,994	1,209	723	22	10	3,064,429
15	Regular factory product.....	17	2,202	6	53	79	79	1,985	Ja 2,273	No 1,739	1,913	1,194	687	22	10	2,965,672
16	Overgaiters, mooccasins, and leggings.....	7	69	4	4	5	6	50	No <sup>5</sup> 61	Ja 24	51	15	36	.....	.....	98,767
17	Boxes, cigar.....	10	355	11	9	4	3	328	Se 338	Ja <sup>5</sup> 322	327	86	211	10	20	203,114
18	Boxes, fancy and paper.....	23	1,612	38	47	40	26	1,461	De 1,574	Fe 1,402	1,705	1,131	540	8	26	3,276,922
19	Boxes, wooden packing.....	40	1,772	21	64	39	22	1,625	An 1,903	De 1,305	1,703	1,523	116	64	.....	2,802,016
20	Brass, bronze, and copper products.....	64	5,251	37	133	242	108	4,731	Mh 4,986	De 4,421	4,501	4,254	164	78	5	10,778,482
21	Bread and bakery products.....	922	5,670	1,058	113	296	189	4,014	.....	.....	4,070	3,241	799	20	10	8,535,505
22	Biscuits and crackers.....	12	781	6	25	127	27	596	Je 652	Ja 556	582	333	247	.....	.....	2,372,705
23	All other.....	910	4,889	1,052	88	169	102	3,418	Jy <sup>5</sup> 3,533	Fe 3,292	3,488	2,908	552	20	8	6,162,800
24	Brick and tile, terra-cotta, and fire-clay products.....	84	1,916	84	68	33	12	1,719	.....	.....	1,830	1,825	.....	5	.....	3,898,847
25	Building brick.....	52	1,391	49	53	16	7	1,266	Je 1,692	Ja 841	1,348	1,344	.....	4	.....	2,959,997
26	Sewer pipe, drain tile, and fire-proofing terra cotta.....	32	525	35	15	17	5	453	An 550	De 356	482	481	.....	1	.....	938,850
27	Brooms.....	28	146	37	1	2	1	105	De 120	An <sup>5</sup> 91	120	89	31	.....	.....	117,967
28	Brushes.....	10	184	14	4	7	2	157	Ja 176	Jy 145	153	103	50	.....	.....	324,759
29	Butter.....	270	1,202	146	159	69	59	709	Jy 847	Fe 661	780	736	39	5	.....	2,580,686
30	Canning and preserving, fruits and vegetables.....	49	1,851	27	51	63	23	1,687	.....	.....	3,782	1,607	2,157	2	16	2,091,738
31	Canned vegetables.....	27	1,466	6	38	57	20	1,345	Se 3,344	Ja 262	2,889	1,343	1,535	2	9	2,230,849
32	Canned fruits.....	18	368	16	13	6	3	330	Se 727	Fe 20	899	246	586	.....	7	448,714
33	Dried fruits.....	4	17	5	.....	.....	.....	12	Oc <sup>5</sup> 51	Ja <sup>5</sup> 0	54	18	36	.....	.....	12,175
34	Carpets, rag.....	19	76	21	.....	1	.....	54	An 68	Mh 37	55	45	10	.....	.....	59,238
35	Carriage and wagon materials.....	14	187	12	8	3	.....	164	Jy 187	Ap 141	176	171	5	.....	.....	290,850
36	Carriages and sleds, children's.....	8	538	1	23	30	22	462	No 514	My 426	535	455	72	8	.....	1,018,853
37	Carriages, wagons, and repairs.....	163	1,600	190	48	68	41	1,253	.....	.....	1,178	1,148	27	3	.....	3,993,261
38	Carriages and wagons.....	153	1,557	177	48	68	40	1,224	Mh 1,380	Oc 1,088	1,151	1,121	27	3	.....	3,971,424
39	Repair work only.....	10	43	13	.....	1	.....	29	Jy 34	De 24	.....	27	.....	.....	.....	21,937
40	Cars and general shop construction and repairs by electric-railroad companies.....	18	939	1	10	41	2	885	Je 939	Se 860	872	872	.....	.....	.....	1,734,332
41	Cars and general shop construction and repairs by steam-railroad companies.....	26	6,171	.....	141	214	13	5,803	De 6,066	Fe 5,457	6,312	6,312	.....	.....	.....	4,950,533
42	Cement.....	11	1,503	1	32	118	12	1,340	Jy 1,502	Fe 972	1,336	1,336	.....	.....	.....	7,370,552
43	Cheese.....	75	229	58	16	5	4	146	Je 164	Ja 132	144	130	14	.....	.....	480,091
44	Chemicals.....	36	4,932	19	83	291	30	4,509	Ja 4,619	Jy 4,403	4,447	4,416	28	1	2	26,452,791
45	Clothing, men's.....	23	2,382	19	36	138	98	2,091	.....	.....	2,144	224	1,920	.....	.....	3,085,514
46	Men's and youths'.....	19	2,320	17	32	132	93	2,046	Fe 2,381	Jy 1,771	2,097	208	1,889	.....	.....	3,025,905
47	All other.....	4	62	2	4	6	5	45	An 57	Se 31	47	16	31	.....	.....	59,609
48	Clothing, women's.....	32	1,936	24	38	103	99	1,672	.....	.....	1,459	91	1,348	4	16	1,599,762
49	Suits, skirts, and cloaks.....	4	42	3	5	3	1	30	Jy 36	De <sup>5</sup> 24	.....	2	22	.....	.....	39,583
50	Shirt waists and dresses, except house dresses.....	12	1,560	5	19	83	91	1,357	Ja 2,386	Jy 792	1,188	50	1,123	2	4	1,223,873
51	Undergarments and petticoats.....	5	107	8	6	8	3	82	Mh 108	De 61	49	11	24	2	12	201,188
52	Wrappers, house dresses, and other similar products.....	11	227	8	8	4	4	203	Mh 209	De <sup>5</sup> 192	198	19	179	.....	.....	135,118
53	Coffee, roasting and grinding.....	16	149	13	11	29	8	88	Oc 93	Ja <sup>5</sup> 82	85	48	37	.....	.....	502,083
54	Coffins, burial cases, and undertakers' goods.....	23	678	21	34	57	26	540	Oc 553	My 528	547	472	73	1	1	1,324,119
55	Condensed milk and milk products, other than butter and cheese.....	19	522	3	30	32	5	452	Jy 540	Mh 411	435	373	62	.....	.....	2,237,276
56	Confectionery and ice cream.....	124	1,570	143	55	114	71	1,187	.....	.....	1,294	574	694	5	21	2,734,567
57	Confectionery and chewing gum.....	64	1,250	69	42	96	50	993	Oc 1,148	Ja 907	1,095	391	682	1	21	1,768,624
58	Ice cream.....	60	320	74	13	18	21	194	An 269	Fe 143	199	183	12	4	.....	965,943
59	Cooperage.....	50	281	55	4	1	1	220	Oc 308	Fe 168	304	301	2	1	.....	383,257
60	Copper, tin, and sheet-iron work.....	140	1,065	169	58	47	19	772	Oc 901	Fe 632	763	760	2	1	.....	1,150,004
61	Corsets.....	16	2,406	10	57	83	107	2,149	Fe 2,612	De 1,671	1,913	342	1,552	6	13	3,595,620
62	Cotton goods.....	3	42	2	3	3	3	31	Ja <sup>5</sup> 32	De <sup>5</sup> 30	33	9	23	1	.....	53,811
63	Cutlery and edge tools.....	4	93	4	5	3	.....	81	Se 112	De 20	94	88	6	.....	.....	126,889

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.<sup>3</sup> No figures given for reasons stated under "Explanation of terms."



OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$23,793,282	\$44,479,413	\$182,252,284	\$7,973,706	\$3,496,634	\$14,984,537	\$569,328,043	\$23,473,021	\$1,086,162,432	\$493,361,368	764,183	516,771	23,199	31,711	192,502	123,264	1
212,821	404,324	1,456,438	25	3,084	98,357	2,530,301	109,657	7,731,217	5,091,259	5,941	2,856	151	.....	2,934	795	2
390	2,964	3,936	400	1,248	27	3,608	117	18,750	15,025	3	.....	.....	.....	.....	.....	3
29,363	11,183	306,059	5,481	9,936	7,624	387,627	12,669	1,059,966	659,670	1,258	437	381	.....	440	110	4
1,654,064	13,370,697	19,412,428	10,921	189,963	348,617	37,538,985	854,274	71,540,977	33,146,818	30,823	8,095	339	.....	22,389	4,256	5
3,372,901	5,217,331	38,380,041	3,569,709	705,270	1,536,088	179,288,363	1,533,773	326,748,945	145,926,809	48,556	15,025	3,490	.....	30,041	8,227	6
10,907	7,013	111,750	732	15,142	3,074	82,548	7,699	358,225	267,978	254	5	88	.....	161	9	7
10,907	5,993	107,117	732	13,011	3,058	73,151	6,954	332,623	252,518	231	.....	83	.....	148	9	8
.....	1,020	4,633	.....	2,131	16	9,397	745	25,602	15,460	23	5	5	.....	13	.....	9
33,673	21,931	104,024	1,500	11,704	2,587	259,156	2,240	501,915	240,519	45	.....	.....	.....	45	5	10
13,740	2,833	113,348	.....	1,640	4,147	280,807	3,988	536,756	251,961	574	518	12	.....	44	5	11
.....	1,000	800	.....	1,200	116	7,040	256	16,300	9,004	.....	.....	.....	.....	.....	.....	12
44,313	53,771	241,711	5,264	13,376	5,148	620,977	8,039	1,261,748	632,732	272	.....	2	.....	270	13	13
116,002	144,805	932,241	.....	27,339	26,892	3,149,290	32,101	5,357,151	2,175,760	1,596	837	64	.....	695	110	14
110,802	138,926	914,514	.....	26,633	25,788	3,076,282	31,241	5,230,680	2,123,157	1,640	790	64	.....	686	110	15
5,200	5,879	17,727	.....	706	1,104	73,008	860	126,471	52,608	56	47	.....	.....	9	.....	16
13,560	5,580	125,266	.....	4,044	3,021	189,424	5,273	393,771	199,074	277	100	90	.....	87	.....	17
114,533	55,757	747,977	1,439	16,636	30,607	2,020,332	110,465	3,747,876	1,617,079	5,935	5,396	.....	.....	539	1,597	18
128,629	54,182	782,255	22,690	11,186	24,075	2,274,054	22,855	3,580,741	1,283,832	6,025	5,391	66	.....	568	108	19
411,963	379,811	3,029,911	6,632	18,748	97,612	11,109,573	363,894	16,808,725	5,395,258	14,251	11,278	288	.....	2,085	3,798	20
195,831	481,026	2,459,486	3,691	237,015	78,721	8,988,553	319,544	16,000,068	6,691,971	3,479	846	126	.....	2,507	1,078	21
34,490	225,487	226,107	.....	12,200	13,221	1,082,472	27,794	2,044,869	934,603	479	275	.....	.....	204	.....	22
161,341	255,539	2,233,379	3,691	224,725	65,500	7,906,081	291,750	13,955,199	5,757,368	3,000	571	126	.....	2,303	1,078	23
115,547	42,943	959,673	47,966	11,563	23,055	275,169	560,960	2,474,465	1,638,336	9,794	8,525	250	102	917	281	24
95,962	17,357	750,347	46,466	10,894	16,055	159,659	433,759	1,898,376	1,304,958	7,326	6,144	163	102	917	275	25
19,585	29,586	209,326	1,500	669	7,000	115,510	127,201	576,089	333,378	2,468	2,381	87	.....	.....	6	26
700	3,650	65,070	.....	1,109	1,059	162,691	2,186	267,765	102,888	70	.....	15	.....	55	.....	27
7,771	11,970	73,222	.....	1,632	3,993	183,292	1,800	345,434	188,342	51	.....	13	.....	38	.....	28
114,043	84,919	510,981	16,305	18,337	21,013	11,556,297	106,805	13,479,297	1,813,195	4,035	3,224	107	8	686	116	29
70,450	59,131	583,183	2,470	3,306	16,254	2,594,561	45,681	4,421,946	1,781,704	3,712	3,285	190	.....	237	35	30
60,354	55,271	470,781	.....	830	14,186	2,059,412	33,849	3,630,504	1,537,243	3,165	2,829	143	.....	193	27	31
10,096	3,860	107,822	2,470	2,476	2,035	528,677	10,394	774,287	235,216	541	456	41	.....	44	.....	32
.....	.....	4,580	.....	33	6,472	1,438	1,438	17,155	9,245	6	.....	6	.....	.....	.....	33
.....	1,243	30,359	80	1,448	469	7,789	1,723	65,794	59,282	78	.....	18	.....	60	8	34
14,275	1,900	89,886	.....	1,080	2,795	165,753	5,876	324,043	152,414	594	485	7	25	77	.....	35
40,315	66,661	223,849	.....	240	5,792	429,680	12,958	970,486	527,848	598	500	.....	.....	98	236	36
101,227	148,240	891,778	2,202	28,231	37,987	1,710,598	45,624	3,450,784	1,694,562	2,145	726	208	17	1,194	32	37
101,227	147,808	872,390	2,202	26,026	37,715	1,693,715	44,651	3,391,693	1,653,227	2,106	726	190	17	1,173	32	38
.....	432	19,388	.....	2,205	272	16,883	973	59,191	41,335	39	.....	18	.....	21	.....	39
14,953	34,094	629,366	.....	17,681	617,140	14,744	1,326,474	694,590	413	125	.....	.....	.....	288	10	40
207,175	184,319	3,905,314	1,165	.....	8,958	3,030,784	233,666	7,569,197	4,304,747	8,595	4,176	551	.....	3,868	2,297	41
76,844	151,180	974,813	1,093	45,189	53,014	1,253,515	1,154,199	4,529,025	2,121,312	24,158	19,262	201	2,000	2,695	10,533	42
15,922	5,289	87,948	750	855	300	1,788,293	24,547	2,030,753	217,913	833	797	12	.....	24	45	43
351,534	343,420	3,404,598	259,853	4,168	234,816	4,175,229	2,198,256	13,891,415	7,517,930	45,944	38,163	3,505	60	4,216	7,466	44
115,726	131,014	929,318	23,235	21,434	25,230	2,752,319	16,839	4,734,975	1,965,817	939	740	1	.....	198	57	45
111,676	126,842	910,497	23,235	19,270	24,900	2,718,063	16,241	4,649,194	1,914,890	926	740	.....	.....	186	57	46
4,050	4,172	18,821	.....	2,164	330	34,256	598	85,781	50,927	13	.....	1	.....	12	.....	47
85,166	169,685	715,163	1,550	23,827	13,798	1,176,124	17,723	2,660,507	1,466,660	552	145	.....	.....	407	.....	48
4,350	2,638	12,006	.....	2,235	372	33,350	366	57,502	23,786	27	.....	.....	.....	27	.....	49
54,665	151,856	587,859	1,550	14,480	10,379	808,980	12,783	1,992,509	1,170,746	412	125	.....	.....	287	.....	50
11,251	8,282	39,126	.....	1,044	1,974	122,567	1,831	227,296	102,898	48	20	.....	.....	28	.....	51
14,900	7,009	76,162	.....	6,068	1,073	211,227	2,743	383,200	169,230	65	.....	.....	.....	65	.....	52
33,409	33,009	49,632	73	14,705	4,747	1,306,886	9,112	1,617,989	301,991	205	.....	.....	.....	205	140	53
52,553	79,588	315,143	450	10,549	16,372	629,179	18,726	1,354,669	706,764	1,077	710	49	40	278	56	54
61,125	33,162	264,440	.....	2,183	21,464	4,866,967	116,594	6,039,547	1,055,986	1,791	1,791	.....	.....	.....	245	55
114,101	184,847	554,734	4,774	106,862	25,747	2,775,720	82,129	4,842,801	1,984,952	2,774	1,253	30	.....	1,491	266	56
99,690	159,506	448,039	854	96,965	15,991	1,778,824	40,677	3,039,808	1,220,307	1,157	579	8	.....	570	263	57
14,411	25,841	106,695	3,920	9,897	9,756	996,896	41,452	1,802,993	764,645	1,617	674	22	.....	921	3	58
5,500	1,876	130,943	1,500	1,656	3,955	440,538	4,603	718,982	273,841	348	266	.....	.....	54	.....	59
91,858	51,066	535,849	8,998	28,722	13,139	859,054	11,801	2,047,704	1,176,849	392	.....	42	.....	350	.....	60
290,551	387,163	873,009	87,071	8,826	27,532	1,876,817	21,732	4,981,581	3,083,032	959	668	25	.....	266	437	61
2,100	3,492	13,863	.....	3,650	575	113,047	1,628	148,665	33,990	80	.....	8	.....	72	.....	62
9,400	2,070	48,915	.....	360	1,159	26,687	6,144	106,307	73,476	233	75	.....	.....	158	5	63

\* Same number reported throughout the year.

\* Same number reported for one or more other months.

\* None reported for one or more other months.

## MANUFACTURES.

TABLE 38.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS OR

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.	
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.				
						Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.			
									Maximum month.	Minimum month.								
1	Dairymen's, poultrymen's, and apiarists' supplies.	14	162	13	9	21	9	110	Oc <sup>3</sup>	120	Jy	104	120	111	9			\$376,605
2	Druggists' preparations.	15	3,718	5	35	1,057	446	2,175	Ja	2,231	Jy	2,123	2,175	1,143	1,019	11	2	12,797,223
3	Electrical machinery, apparatus, and supplies.	35	1,408	12	80	110	62	1,144	My	1,252	Se	1,026	1,139	810	324	4	1	2,651,519
4	Electroplating.	18	151	22	9	5	2	113	Mh	131	Jy	94	110	103	5	2		77,384
5	Emery and other abrasive wheels.	3	93		6	5	4	78	Ap	91	Se	67	70	51	19			164,783
6	Engines, steam, gas, and water.	48	5,210	17	178	400	188	4,427	My	5,324	Ja	3,332	4,660	4,647	11	2		13,320,820
7	Engraving, steel and copper plate, including plate printing.	12	115	8	5	4	7	91	Dg	100	My <sup>3</sup>	87	99	75	23	1		106,145
8	Fancy articles, not elsewhere specified.	8	252	4	16	11	9	212	Ap	243	No	167	177	97	79	1		241,662
9	Flavoring extracts.	10	54	6	6	9	5	28	Oc	31	Fe <sup>3</sup>	25	28	9	19			110,790
10	Flour-mill and gristmill products.	427	2,353	515	174	194	100	1,370	Oc	1,410	Je	1,306	1,432	1,392	33	7		10,049,641
11	Food preparations, not elsewhere specified.	56	2,572	41	64	569	215	1,683	Jy	2,028	Ja	1,327	1,908	1,358	549	1		6,495,414
12	Foundry and machine-shop products.	502	20,714	331	876	1,302	597	17,608	Ja	607	No	494	15,979	15,533	426	19	1	49,834,654
13	Boiler shops.	15	604	10	31	50	19	554	Mh	607	No	494	530	530				1,784,352
14	Foundries.	58	5,589	26	131	115	38	5,279	Ja	6,166	No	4,346	4,863	4,659	197	6	1	5,340,425
15	Machine shops.	429	14,461	295	714	1,137	540	11,775	Ap	12,861	No	10,245	10,586	10,344	229	13		42,703,877
16	Fur goods.	35	543	33	33	49	48	380	De	609	Ap	231	527	238	282	4	3	1,476,303
17	Furnishing goods, men's.	16	231	13	12	8	11	187	No	220	Ap	164	208	25	183			210,125
18	Furniture.	192	16,447	86	491	764	400	14,706	Fe	14,265	De	12,670	14,363	13,764	529	61	9	32,900,916
19	Wood, other than rattan and willow.	157	14,875	65	438	661	347	13,364	Fe	14,265	De	12,670	13,225	12,726	430	60	9	30,151,092
20	Rattan, willow, and metal.	12	513	9	12	62	11	419	Mh	507	De	308	212	182	30			952,395
21	Store and office fixtures.	23	1,059	12	41	41	42	923	Se	940	Ja	902	926	856	69	1		1,797,429
22	Gas and electric fixtures.	8	99	7	8	8	10	66	Ja	79	Je	51	77	54	23			112,836
23	Gas, illuminating and heating.	59	3,300	2	161	498	290	2,349	Je	2,591	No	2,157	2,237	2,233	4			49,188,848
24	Gas machines and gas and water meters.	7	197	3	13	24	9	148	Se	156	Mh	141	146	146				277,527
25	Glass, cutting, staining, and ornamenting.	12	153	6	13	6	3	125	Ja	143	De	104	113	104	9			152,274
26	Grease and tallow, not including lubricating greases.	9	138	7	9	8	2	112	Au	118	No	104	105	105				496,140
27	Hair work.	5	25	4	3		6	12	No	16	Au	8	12		12			9,877
28	Hand stamps.	8	34	10	3	1	1	19	Ja <sup>3</sup>	20	Au <sup>3</sup>	18	21	18	2	1		13,794
29	Hardware.	21	843	10	31	39	21	742	Ja <sup>3</sup>	216	Jy <sup>3</sup>	206	735	660	72	3		1,179,245
30	Builders' hardware.	6	249	3	11	16	9	210	Ja <sup>3</sup>	216	Jy <sup>3</sup>	206	210	144	66			566,707
31	All other.	15	594	7	20	23	12	532	Fe	593	Au	458	525	516	6	3		612,538
32	Hats and caps, other than felt, straw, and wool.	5	91	9	1	5	3	73	Au <sup>3</sup>	77	Ja	64	69	51	18			88,595
33	Hosiery and knit goods.	34	3,036	19	92	110	101	2,714	Oc	2,828	Ja	2,616	2,660	649	1,972	10	29	5,295,553
34	Ice, manufactured.	11	512	1	24	29	15	443	Jy	704	Fe	214	461	461				1,408,771
35	Iron and steel, blast furnaces.	12	1,073		31	35	16	991	Fe	1,193	No	745	966	966				9,802,954
36	Iron and steel, steel works and rolling mills.	9	811		32	50	11	718	Ap	875	Au	620	634	626	7	1		2,482,433
37	Iron and steel forgings.	11	605	2	19	23	9	552	No	641	Se	484	592	588	4			1,543,144
38	Jewelry.	25	202	26	14	7	12	143	De <sup>3</sup>	151	Jy	137	152	125	13	13	1	245,644
39	Labels and tags.	5	117	1	8	2	8	98	Oc	108	Au	94	99	62	37			156,772
40	Lamps.	5	574	4	11	18	10	531	My	630	De	454	454	403	51			1,210,498
41	Leather goods, not elsewhere specified.	10	205	4	19	7	12	163	Ja	186	De	129	154	90	61	2	1	319,273
42	Leather, tanned, curried, and finished.	23	2,971	2	70	94	32	2,773	Fe	2,855	Oc	2,711	2,726	2,724	1	1		19,002,119
43	Lime.	8	172	6	8	5	3	150	My	204	Fe	85	153	152	1			519,952
44	Liquors, malt.	70	2,593	35	177	255	29	2,097	Je	2,371	Fe	1,894	2,024	1,999	17	8		17,253,699
45	Liquors, vinous.	4	15	5				10	Se	30	Fe <sup>3</sup>	2	16	6		10		77,850
46	Looking-glass and picture frames.	8	297	7	16	13	2	259	No	299	Ja	198	249	169	76	1	3	363,684
47	Lubricating greases.	4	54		7	11	8	28	Mh <sup>3</sup>	30	De	25	25	25				311,785
48	Lumber and timber products.	477	23,106	473	502	526	117	21,488	Fe	24,300	De	17,540	23,567	23,488	36	43		42,163,112
49	Lumber, planing-mill products, not including planing mills connected with sawmills.	217	6,028	181	317	366	220	4,944	Je	5,273	Ja	4,516	4,853	4,757	62	31	3	16,019,667
50	Marble and stone work.	111	691	122	42	47	19	461	Jy	545	Fe	345	466	464	2			1,233,541
51	Mattresses and spring beds.	23	368	25	26	24	15	278	Ap	308	Ja	260	264	216	48			939,996
52	Millinery and lace goods.	13	136	9	7	1	8	111	Mh	163	Au	51	105	22	82		1	72,318
53	Mineral and soda waters.	120	609	141	29	32	16	391	Oc	490	De	278	420	410	7	3		1,634,370
54	Mirrors, framed and unframed.	8	211	4	8	6	4	189	Ja <sup>3</sup>	193	Au <sup>3</sup>	183	189	189				317,471
55	Models and patterns, not including paper patterns.	29	343	31	27	3	13	269	Au	297	Ja	217	245	229	15	1		195,500
56	Mucilage and paste.	3	11	2				9	Je <sup>3</sup>	12	De <sup>3</sup>	8	9	8	1			4,312
57	Musical instruments and materials, not specified.	14	191	9	6	11	26	139	Fe	162	No	124	141	133	8			293,183
58	Musical instruments, pianos.	12	1,063	2	37	73	26	925	Mh	997	No	853	874	847	27			6,446,110
59	Oil, essential.	53	110	62	7	1	2	38	Au	120	Fe <sup>3</sup>	2	124	124				368,876

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.

MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$14,222	\$24,169	\$70,366	\$23,000	\$2,230	\$2,909	\$143,838	\$4,152	\$328,996	\$181,006	282	-----	23	150	109	-----	1
215,735	1,858,023	1,351,696	200	68,829	148,030	5,064,288	65,188	11,738,662	6,609,186	1,800	1,480	17	-----	303	1,579	2
218,363	143,005	656,486	5,409	18,627	19,531	1,695,318	44,230	3,416,500	1,675,952	1,584	126	163	-----	1,295	30	3
9,660	6,186	86,664	50	9,018	647	27,549	10,477	179,615	141,589	362	-----	52	-----	310	-----	4
15,930	9,104	22,961	-----	1,620	2,957	117,205	5,923	228,003	101,875	164	100	-----	-----	64	-----	5
408,551	548,256	3,387,286	91,408	167,493	96,493	5,797,970	163,653	12,369,172	6,407,540	9,062	1,724	559	27	6,752	2,656	6
8,800	7,208	72,015	885	6,392	506	35,715	2,571	156,303	118,017	50	-----	-----	-----	50	5	7
28,246	16,141	94,184	-----	5,536	2,862	151,517	4,249	356,902	201,136	200	125	-----	-----	75	-----	8
11,261	9,481	12,297	-----	2,169	1,329	105,136	594	180,837	75,177	6	-----	-----	-----	6	-----	9
236,764	245,565	859,540	7,222	27,322	110,786	23,053,453	245,718	27,381,474	4,082,303	35,321	15,008	2,096	13,369	4,848	931	10
220,395	734,851	1,110,048	9,062	26,374	71,943	6,721,217	317,898	16,005,282	8,966,167	9,760	4,964	50	130	4,616	4,268	11
1,897,527	1,976,981	12,444,035	137,128	178,011	411,407	14,703,132	1,095,401	39,428,783	23,630,250	35,529	13,984	1,606	405	19,534	6,949	12
80,004	93,525	376,287	29,869	2,056	24,283	924,639	34,427	1,554,692	595,626	1,740	1,323	35	-----	377	155	13
274,853	141,044	3,861,963	17,309	39,968	57,053	2,806,862	438,490	8,066,459	5,451,107	6,985	3,089	30	35	3,831	1,597	14
1,542,670	1,742,412	8,205,785	89,950	135,987	330,066	10,971,631	622,484	29,177,632	17,583,517	26,804	9,597	1,641	370	15,326	5,197	15
63,735	95,622	182,648	5,198	34,729	8,137	804,868	18,097	1,679,920	861,965	503	275	-----	5	223	16	16
16,237	7,984	67,140	5,023	7,191	1,843	276,969	2,322	419,677	140,386	104	12	6	-----	86	-----	17
1,255,195	1,286,172	8,559,524	233,811	59,711	345,345	12,127,961	391,476	30,184,542	17,665,105	25,404	21,749	119	510	3,026	3,866	18
1,133,749	1,140,628	7,776,716	217,977	50,298	323,393	10,844,652	350,700	27,037,515	15,842,163	23,043	19,884	71	385	2,703	3,322	19
38,486	66,565	251,134	-----	1,500	5,799	424,996	16,213	1,081,409	640,200	407	290	-----	-----	117	210	20
32,900	78,979	531,674	15,834	7,913	16,153	858,313	24,563	2,065,618	1,182,742	1,954	1,575	48	125	206	334	21
10,424	17,522	40,964	-----	4,995	665	141,109	2,246	271,772	128,417	69	-----	-----	-----	69	-----	22
282,790	512,846	1,584,126	19,424	2,004	462,449	1,029,680	2,326,514	10,440,641	7,084,447	34,935	34,000	308	-----	627	-----	23
23,488	64,318	113,450	3,963	3,300	8,854	124,478	4,461	443,853	314,914	118	-----	12	-----	106	-----	24
18,729	9,418	88,098	60	6,480	2,089	157,709	3,226	291,062	130,127	127	25	-----	-----	102	10	25
16,296	9,305	83,042	-----	785	2,220	214,124	20,006	425,003	184,873	466	285	4	-----	177	70	26
2,800	2,500	5,550	-----	3,871	85	4,858	161	25,928	20,909	1	-----	-----	-----	1	-----	27
2,029	1,040	13,393	33	3,270	113	14,261	194	46,668	32,213	11	-----	-----	-----	11	-----	28
71,892	52,366	439,794	1,795	12,115	12,242	622,331	27,131	1,591,385	941,923	879	240	44	-----	595	-----	29
21,982	28,752	122,651	-----	1,560	5,900	175,391	4,685	549,237	369,161	283	60	10	-----	213	-----	30
49,910	23,614	317,143	1,795	10,555	6,342	446,940	22,446	1,042,148	572,762	596	180	34	-----	382	-----	31
960	15,600	49,305	-----	5,050	465	105,456	1,435	216,994	110,103	10	-----	-----	-----	10	-----	32
187,799	136,105	1,006,335	4,515	13,165	51,432	2,537,436	72,999	5,232,985	2,622,550	3,373	1,431	770	370	802	422	33
30,048	26,218	389,323	205	180	11,153	30,565	97,771	764,956	636,620	4,433	2,310	-----	-----	2,123	88	34
116,018	41,551	781,852	-----	121,186	2,330,237	1,646,342	1,646,342	5,450,063	1,573,484	14,045	13,405	-----	640	3,090	-----	35
79,916	79,439	497,999	427	16,379	730,895	140,046	-----	1,716,351	845,410	4,688	2,900	-----	-----	1,785	390	36
46,102	26,413	476,399	2,360	4,169	15,800	707,997	98,870	1,492,842	685,975	1,532	675	-----	-----	857	368	37
19,090	11,868	106,158	3,066	14,160	1,720	156,164	2,052	407,286	249,070	64	-----	-----	-----	64	-----	38
12,140	11,724	52,366	4,670	2,900	1,117	78,529	2,523	203,470	122,418	56	-----	9	-----	47	-----	39
48,906	61,892	403,626	5,000	780	13,570	779,097	13,141	1,822,593	1,030,355	924	280	-----	-----	644	-----	40
46,072	20,989	77,761	-----	5,100	3,049	442,116	2,880	664,492	219,496	156	-----	36	-----	120	-----	41
267,499	154,900	1,738,851	2,714	1,200	196,615	20,691,334	290,913	25,503,573	4,521,326	6,787	5,680	25	-----	1,082	2,622	42
13,500	5,630	87,823	-----	6,693	59,161	72,451	317,724	186,112	653	535	6	-----	-----	112	-----	43
489,908	307,018	1,702,740	13,104	3,100	2,180,989	4,004,023	324,005	15,041,247	10,713,219	13,039	10,074	646	3	2,316	388	44
35,655	18,803	126,366	2,500	262	1,075	2,805	286	11,060	7,969	5	-----	-----	-----	5	-----	45
12,935	18,203	18,565	-----	3,330	4,483	188,849	5,000	486,328	292,479	264	250	-----	-----	14	-----	46
-----	-----	-----	224	2,212	192,641	4,737	-----	300,949	103,571	309	148	28	-----	13	-----	47
937,940	514,164	11,148,312	1,572,305	22,857	920,497	13,878,808	229,851	33,873,367	19,764,708	79,422	76,207	672	978	1,565	5,542	48
583,968	449,663	3,002,386	22,361	35,375	173,648	12,040,383	167,816	19,767,965	7,559,766	25,542	20,969	698	315	3,560	1,539	49
53,610	53,995	390,448	27,151	10,251	10,397	612,455	24,359	1,561,481	924,667	1,644	405	136	-----	1,103	9	50
40,370	33,630	161,886	8,325	4,645	9,752	509,803	9,241	877,136	358,092	16	200	-----	-----	317	-----	51
10,182	5,513	65,463	601	9,312	979	104,146	942	248,790	143,702	-----	-----	-----	-----	16	-----	52
49,094	40,779	245,999	1,303	27,659	15,336	802,835	15,732	1,695,666	877,099	814	275	156	12	371	118	53
27,730	10,473	114,003	-----	4,411	3,161	335,529	6,046	540,741	199,166	442	310	40	40	52	25	54
35,563	11,978	235,008	300	10,794	2,069	58,904	7,247	431,528	365,377	297	-----	-----	-----	267	-----	55
-----	-----	4,870	-----	1,296	64	6,500	56	17,300	10,744	1	-----	-----	-----	1	-----	56
15,240	27,891	95,115	40	5,150	2,854	43,479	3,966	328,702	281,267	76	-----	-----	-----	76	-----	57
118,132	107,848	587,466	188	1,960	20,094	1,104,169	24,290	2,415,999	1,287,540	1,481	1,430	-----	-----	51	164	58
16,800	3,400	17,277	-----	-----	2,711	220,628	4,994	491,842	266,220	619	404	215	-----	-----	-----	59

\*Same number reported for one or more other months.

## MANUFACTURES.

TABLE 38.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS OR

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAR-EST REPRESENTATIVE DAY.						Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.				
						Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Male.	Female.				
									Maximum month.	Minimum month.									
1	Optical goods.....	9	195	5	7	22	20	141	Fe	164	Se	124	129	61	61	5	2	\$390,167	
2	Paints.....	21	1,108	3	56	248	106	695	Ap	782	De	554	637	567	68	1	1	7,223,501	
3	Paper and wood pulp.....	37	6,451	6	144	188	62	6,051	Oc	4,299	Se	4,176	6,146	5,203	942	1	1	22,953,000	
4	Paper exclusively.....	28	4,529	6	100	137	52	4,234	Oc	1,916	Ja	1,637	4,309	3,465	843	1	1	15,161,658	
5	Paper and pulp.....	9	1,922	.....	44	51	10	1,817	Oc	1,916	Ja	1,637	1,837	1,738	99	.....	.....	7,791,342	
6	Patent medicines and compounds.....	102	1,590	76	108	213	164	1,029	Mh	1,124	De	945	572	485	75	5	7	3,847,798	
7	Paving materials.....	9	607	4	14	19	.....	570	Au	848	Ja	318	716	716	.....	.....	.....	4,253,885	
8	Perfumery and cosmetics.....	25	301	17	26	34	59	165	De	205	Jy	146	206	65	139	1	1	528,815	
9	Photo-engraving.....	12	174	7	13	18	7	129	Oc	138	Ja	123	133	127	4	2	.....	132,485	
10	Plumbers' supplies, not elsewhere specified.....	13	840	8	31	65	27	709	Ap	770	De	631	664	643	21	.....	.....	2,004,085	
11	Pottery.....	6	375	5	11	12	8	339	Mh	483	Au	234	384	270	114	.....	.....	601,438	
12	Printing and publishing, book and job.....	404	5,189	377	307	418	227	3,860	.....	.....	.....	.....	3,887	2,880	950	51	6	6,860,748	
13	Job printing.....	377	4,769	358	275	259	187	3,690	Mh	3,805	Au	3,549	3,718	2,746	915	51	6	6,264,222	
14	Book publishing and printing.....	7	83	6	8	7	8	54	Mh	72	Je	45	47	29	18	.....	.....	177,029	
15	Book publishing without printing.....	10	196	5	13	147	29	2	My <sup>a</sup>	11	Ja <sup>a</sup>	0	11	8	3	.....	.....	173,428	
16	Linotype work and typesetting.....	10	141	8	11	5	3	114	Oc	121	Mh <sup>a</sup>	107	111	97	14	.....	.....	246,069	
17	Printing and publishing, newspapers and periodicals.....	680	6,166	767	356	1,293	480	3,270	.....	.....	.....	.....	3,611	3,011	522	34	44	8,597,065	
18	Printing and publishing.....	47	2,312	19	100	829	164	1,200	De	1,250	Ja	1,166	1,505	1,414	89	2	.....	3,881,962	
19	Printing, publishing, and job printing.....	506	3,338	500	201	378	225	2,034	My	2,061	Au	2,004	2,069	1,568	426	31	44	4,456,635	
20	Publishing without printing.....	107	516	248	55	86	91	36	My <sup>a</sup>	37	Ja <sup>a</sup>	34	37	29	7	1	.....	256,468	
21	Printing materials.....	6	12	4	1	.....	1	6	De	8	Ja <sup>a</sup>	5	8	8	.....	.....	.....	28,701	
22	Pumps, not including power pumps.....	8	47	6	1	2	2	36	Je <sup>a</sup>	38	Ja <sup>a</sup>	33	35	35	.....	.....	.....	103,579	
23	Pumps, steam and other power.....	4	293	.....	15	27	5	246	Se	267	Ja	220	237	237	.....	.....	.....	788,822	
24	Refrigerators.....	10	1,681	5	43	51	21	1,501	Mh	1,840	Se	915	1,650	1,603	3	44	.....	3,272,082	
25	Saddlery and harness.....	81	467	89	16	29	5	328	My	847	Fe	315	348	327	21	.....	.....	1,082,509	
26	Salt.....	15	1,595	.....	52	62	47	1,434	Oc	1,621	Fe	1,325	1,421	1,325	96	.....	.....	8,061,144	
27	Sand-lime brick.....	12	163	.....	18	4	5	136	Au	176	De	86	186	185	.....	.....	1	501,202	
28	Sausage.....	19	105	26	2	5	3	69	Oc	77	Ap <sup>a</sup>	65	70	65	5	.....	.....	139,685	
29	Saws.....	11	88	17	5	14	6	46	Ja	55	Jy	42	46	30	15	.....	1	133,614	
30	Scales and balances.....	3	307	.....	9	7	15	276	Mh	294	Jy	240	268	268	.....	.....	.....	616,397	
31	Shipbuilding, iron and steel.....	6	1,010	5	27	36	7	935	My	1,340	De	236	350	350	.....	.....	.....	5,858,876	
32	Shipbuilding, wooden, including boat building.....	56	420	56	14	15	9	326	.....	.....	.....	.....	300	297	2	1	.....	830,900	
33	New vessels and repair work.....	13	193	16	3	6	.....	168	My	250	De	90	149	148	.....	1	.....	507,123	
34	Small boats.....	43	227	40	11	9	9	158	Ap	204	De	105	151	149	2	.....	.....	323,777	
35	Shirts.....	16	490	10	19	29	21	411	Mh	456	Au	305	455	52	403	.....	.....	308,907	
36	Show cases.....	6	488	.....	22	37	19	410	Ap	438	Ja	386	408	404	4	.....	.....	927,089	
37	Signs and advertising novelties.....	18	222	19	19	21	23	140	Jy	158	Fe	119	151	122	29	.....	.....	593,242	
38	Slaughtering and meat packing.....	17	1,318	11	30	131	34	1,112	De	1,174	Ap	1,022	1,243	1,241	2	.....	.....	4,252,977	
39	Soap.....	11	106	8	6	9	5	78	My	83	Ja	71	81	68	11	2	.....	648,557	
40	Sporting and athletic goods.....	15	308	15	13	19	9	252	Mh <sup>a</sup>	278	Se	208	247	195	52	.....	.....	532,042	
41	Springs, steel, car and carriage, not made in steel works or rolling mills.....	6	680	.....	21	12	9	638	Se	758	Jy	493	710	705	5	.....	.....	1,073,321	
42	Stamped and enameled ware, not elsewhere specified.....	14	990	.....	38	27	17	908	Ap	994	No	791	816	751	61	4	.....	1,510,186	
43	Statuary and art goods.....	4	56	7	6	1	1	41	Ja	45	Ap	36	38	38	.....	.....	.....	30,025	
44	Steam fittings and steam and hot-water heating apparatus.....	14	1,244	9	18	97	25	1,095	Mh	1,272	No	927	1,003	985	.....	18	.....	2,272,776	
45	Steam packing.....	3	54	2	6	9	2	35	Se	52	Je	23	50	50	.....	.....	.....	47,646	
46	Stereotyping and electrotyping.....	4	87	.....	5	7	5	70	De	77	Ja	60	70	69	1	.....	.....	86,253	
47	Stoves and hot-air furnaces.....	22	4,528	9	106	489	92	3,832	.....	.....	.....	.....	3,887	3,850	7	30	.....	11,460,120	
48	Stoves and ranges.....	8	3,668	.....	75	361	62	3,170	Mh	3,615	De	2,227	3,242	3,205	7	30	.....	9,459,259	
49	Hot-air furnaces and fireless cookers.....	14	860	9	31	128	30	662	Oc	696	Ja	591	645	645	.....	.....	.....	2,000,861	
50	Stoves, gas and oil.....	5	292	.....	20	21	9	242	Mh	285	No	208	242	242	.....	.....	.....	975,349	
51	Structural ironwork, not made in steel works or rolling mills.....	31	1,727	16	87	220	33	1,371	Au	1,617	De	1,149	1,371	1,363	.....	8	.....	3,864,329	
52	Sugar, beet.....	10	1,762	.....	88	300	48	1,326	Oc	4,585	Mh	249	4,511	4,490	21	.....	.....	26,488,262	
53	Tinware, not elsewhere specified.....	8	784	3	25	26	13	717	Mh	917	No	557	703	418	285	.....	.....	1,791,893	
54	Tobacco, chewing and smoking, and snuff.....	17	2,116	13	22	277	24	1,780	My	1,869	No	1,702	1,756	470	1,185	16	85	4,820,010	
55	Tobacco, cigars.....	609	8,308	663	117	108	65	7,295	Se	7,468	Ap	6,743	7,863	1,547	5,993	23	300	5,204,665	
56	Tools, not elsewhere specified.....	24	448	19	24	18	15	372	Mh	407	No	336	375	364	6	.....	.....	947,295	
57	Toys and games.....	7	289	5	12	15	6	251	Oc	303	Fe	224	275	226	47	2	.....	355,112	
58	Trunks and valises.....	12	229	13	12	9	11	184	Ap <sup>a</sup>	207	De	163	163	123	32	6	2	412,256	
59	Umbrellas and canes.....	5	27	3	6	.....	1	17	( <sup>c</sup> )	17	( <sup>c</sup> )	17	17	5	12	.....	.....	18,896	
60	Vinegar and cider.....	66	179	73	14	1	4	87	.....	.....	.....	.....	190	177	13	.....	.....	601,398	
61	Vinegar.....	13	70	13	9	1	2	45	No	84	Ja <sup>a</sup>	27	72	60	12	.....	.....	417,973	
62	Cider.....	53	109	60	5	.....	2	42	No	147	My <sup>a</sup>	8	118	117	1	.....	.....	183,425	

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.<sup>3</sup> Same number reported for one or more other months.

MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$13,300	\$18,670	\$76,201	-----	\$4,893	\$2,161	\$126,397	\$2,577	\$288,234	\$159,260	84	50	-----	-----	34	-----	1
222,684	532,204	489,897	-----	17,485	54,239	3,271,453	61,362	6,110,200	2,777,385	2,543	1,544	206	-----	793	1,076	2
448,815	238,455	3,559,470	\$42,214	18,037	241,293	13,077,332	1,467,613	22,049,990	7,505,045	62,528	48,187	1,225	11,479	1,637	14,922	3
319,932	166,091	2,468,091	42,214	18,037	151,309	10,468,051	1,034,102	16,999,193	5,496,985	41,058	35,297	925	3,909	927	10,364	4
128,883	72,364	1,091,379	-----	-----	89,984	2,609,281	433,611	5,050,852	2,008,060	21,470	12,890	300	7,570	710	4,558	5
262,741	367,171	558,016	1,330	29,743	39,192	1,452,537	23,817	3,871,014	2,395,160	821	574	30	-----	217	365	6
39,196	22,130	442,817	9,286	1,200	23,034	290,037	90,861	1,228,604	847,706	9,046	4,221	169	-----	4,656	815	7
55,506	78,736	84,519	-----	13,915	7,537	393,418	3,808	824,096	426,870	73	30	-----	-----	43	-----	8
26,169	24,333	131,936	17,548	12,959	1,439	37,440	3,499	338,429	297,490	86	-----	-----	-----	86	-----	9
70,737	65,010	464,460	380	2,902	13,773	917,038	36,826	1,914,139	960,275	1,391	1,030	-----	-----	361	578	10
23,300	23,538	198,606	-----	-----	1,337	109,994	15,991	434,841	308,856	319	40	-----	-----	279	10	11
608,350	630,071	2,621,231	127,170	213,687	66,686	2,976,893	106,896	9,380,560	6,296,771	6,679	494	25	2	6,158	370	12
554,049	413,658	2,475,871	55,418	200,999	60,865	2,909,244	99,623	8,663,600	5,654,733	3,971	464	25	2	3,480	370	13
12,256	10,769	31,459	1,580	2,160	1,319	38,789	2,217	145,362	104,356	48	30	-----	-----	18	-----	14
26,856	194,657	600	69,310	4,844	3,422	13,030	-----	332,042	319,012	-----	-----	-----	-----	2,660	-----	15
15,189	10,987	113,301	862	5,684	1,080	15,830	5,056	239,556	218,670	2,660	-----	-----	-----	2,660	-----	16
665,230	1,469,600	2,333,351	426,948	172,888	93,530	3,215,882	127,677	12,290,227	8,946,668	5,271	178	683	38	4,372	63	17
241,501	898,897	1,076,999	6,948	41,898	49,902	1,842,870	55,719	6,271,929	4,373,340	2,412	12	9	-----	2,391	-----	18
341,527	443,725	1,229,365	70,119	117,023	41,917	1,302,737	70,630	5,082,201	3,708,834	2,821	166	674	38	1,943	63	19
82,202	126,978	26,987	349,881	13,967	1,711	70,275	1,328	936,097	864,494	38	-----	-----	-----	38	-----	20
2,446	80	5,800	339	2,370	62	28,199	318	28,199	22,340	12	-----	-----	-----	12	-----	21
1,500	4,000	20,160	170	112	588	39,145	1,019	80,210	40,046	63	-----	62	-----	1	-----	22
34,971	27,226	196,059	152	772	12,616	190,963	9,847	637,251	436,441	363	325	-----	-----	38	70	23
128,210	68,862	928,805	240	31,307	1,817,650	24,136	24,136	3,672,499	1,830,713	2,800	2,700	2	-----	98	503	24
19,466	27,738	197,044	19,256	21,193	10,048	736,729	8,197	1,328,575	533,649	212	-----	5	-----	207	-----	25
118,939	167,450	990,738	19,965	42,438	1,398,913	668,207	4,420,772	4,420,772	2,553,652	8,316	7,156	-----	-----	1,160	699	26
18,860	5,695	86,557	3,180	250	5,811	74,799	20,609	264,854	169,446	1,392	1,392	-----	-----	-----	-----	27
3,120	6,788	45,200	-----	3,208	1,019	461,850	7,483	601,178	131,845	219	98	8	-----	113	-----	28
8,367	21,275	30,428	35	3,229	585	24,494	3,021	126,865	99,350	144	70	10	-----	64	-----	29
21,840	14,647	200,415	-----	3,100	4,183	201,055	6,639	612,022	404,328	298	100	-----	-----	198	-----	30
63,969	39,219	810,473	-----	-----	37,210	946,890	60,412	2,261,069	1,263,767	4,617	4,525	-----	-----	92	2,241	31
20,591	17,524	229,043	5,693	5,592	7,343	242,957	8,484	561,488	310,047	2,948	2,373	298	16	261	-----	32
3,948	5,696	111,824	5,246	432	5,192	75,485	2,743	204,371	126,143	2,433	2,290	37	-----	106	-----	33
16,643	11,828	117,219	447	5,160	2,151	167,472	5,741	357,117	183,904	515	83	261	16	155	-----	34
33,084	35,304	104,881	23,215	17,559	2,652	222,833	3,847	571,255	344,575	136	-----	-----	-----	136	-----	35
41,670	62,008	272,071	-----	-----	7,695	451,865	10,850	1,034,635	571,920	845	465	-----	-----	380	-----	36
37,502	37,249	94,909	48,975	4,447	4,152	175,598	3,327	566,058	387,133	59	-----	-----	-----	59	-----	37
103,166	157,739	769,514	2,700	2,700	25,051	18,744,135	69,730	20,665,737	1,851,872	3,056	2,585	4	-----	467	820	38
12,900	15,140	49,279	1,590	5,453	5,453	354,450	8,040	522,446	159,056	245	203	-----	-----	42	-----	39
17,548	17,501	127,552	8,500	6,708	4,863	134,485	8,564	482,047	338,998	749	512	12	-----	225	1	40
52,715	20,134	471,873	-----	-----	15,293	1,116,063	66,652	2,174,957	992,242	1,000	625	30	-----	345	357	41
84,818	41,663	534,273	-----	16,740	17,524	869,872	42,939	1,843,049	930,238	1,918	1,100	15	-----	803	400	42
7,920	612	44,387	500	2,160	180	4,629	315	76,395	71,951	5	-----	-----	-----	5	-----	43
59,360	119,985	795,982	430	4,625	15,646	1,049,769	79,923	2,915,323	1,785,631	1,232	1,128	8	-----	96	483	44
8,222	7,904	24,728	1,690	2,845	169	44,112	355	99,245	54,778	29	-----	-----	-----	29	-----	45
11,500	11,921	58,759	877	5,479	535	35,782	4,405	161,418	121,231	177	-----	-----	-----	177	-----	46
396,351	715,800	2,794,524	3,573	5,280	96,310	3,043,472	126,041	9,658,368	6,488,855	5,441	4,670	144	33	594	1,560	47
305,725	548,360	2,300,451	-----	-----	87,244	2,074,585	104,228	7,500,285	5,321,472	4,789	4,395	132	-----	262	1,485	48
90,626	167,440	494,073	3,573	5,280	9,066	998,887	21,813	2,158,083	1,167,383	652	275	12	33	332	75	49
41,329	55,252	193,539	-----	1,515	8,059	532,598	12,515	1,098,371	553,263	475	-----	-----	-----	475	-----	50
205,044	275,042	1,038,744	5,983	13,156	34,200	2,143,854	62,722	4,918,366	2,711,790	3,257	870	29	-----	2,358	836	51
170,642	304,023	931,667	33,046	-----	139,223	5,761,344	483,041	11,023,058	4,778,673	10,306	10,255	41	10	-----	696	52
35,869	41,289	366,754	360	-----	12,195	1,002,940	20,791	1,759,382	735,651	479	394	75	-----	10	142	53
115,757	319,308	699,728	21,514	2,341,142	3,465,215	3,465,215	35,093	8,545,154	5,044,846	1,082	707	14	-----	361	459	54
145,854	280,274	3,079,464	1,251	107,553	1,270,455	5,436,451	26,593	12,121,862	6,658,818	4,061	-----	81	-----	3,980	1	55
41,515	37,677	271,135	3,700	12,624	10,434	337,629	16,137	859,144	505,378	961	245	125	-----	591	-----	56
30,660	17,000	149,485	8,649	3,669	2,104	240,644	5,079	529,373	283,650	198	150	20	-----	28	30	57
24,359	12,034	104,122	-----	8,780	5,098	169,670	3,504	432,487	259,313	94	48	-----	-----	46	17	58
6,400	720	7,229	-----	7,250	187	27,019	132	66,769	39,618	6	-----	-----	-----	6	-----	59
13,175	2,896	50,404	4,335	1,707	5,855	241,982	10,546	485,311	232,783	1,349	896	235	20	198	7	60
13,200	2,216	29,641	2,203	910	4,268	150,810	4,367	303,759	148,582	323	191	22	-----	110	7	61
4,975	680	20,763	2,132	797	1,587	91,172	6,179	181,552	84,201	1,026	705	213	20	88	-----	62

\* None reported for one or more other months.

\* Same number reported throughout the year.

## MANUFACTURES.

TABLE 38.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS OR

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.						
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.									
						Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Male.	Female.									
									Maximum month.	Minimum month.														
1	Wall plaster.....	13	776	2	25	87	31	631	Ap	718	De	544	544	516	28	.....	.....	\$3,579,337						
2	Window shades and fixtures.....	8	812	1	16	73	20	702	Ja	754	Se	680	685	508	177	.....	.....	1,321,221						
3	Wirework, including wire rope and cable, not elsewhere specified.	33	1,576	16	67	128	51	1,314	.....										.....	.....	5,058,621			
4	Wire rope, cable, and woven-wire fencing.	11	822	2	26	95	30	669	Ap	775	Jy	525	657	656	1	.....	.....	3,948,419						
5	All other.....	22	754	14	41	33	21	645	Mh	692	De	564	615	522	84	9	.....	1,110,202						
6	Wood distillation.....	10	709	.....	31	30	3	645	Au	702	Jy	609	676	676	.....	.....	3,164,001							
7	Wood, turned and carved.....	45	661	39	26	9	11	576	Mh	696	De	474	591	571	17	3	.....	1,013,124						
8	Woodengoods, not elsewhere specified	32	1,912	24	47	75	19	1,747	Fe	1,954	My	1,691	1,766	1,201	540	21	4	2,660,405						
9	Woolen goods.....	9	509	6	10	11	5	477	De	520	Au	448	528	317	211	.....	.....	1,304,476						
10	All other industries*	323	22,997	240	717	3,474	1,178	17,388	.....										17,114	14,257	2,788	33	86	71,183,961

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

* All other industries embrace—																	
Aluminum ware.....	1																
Ammunition.....	1																
Artificial flowers.....	1																
Artists' materials.....	1																
Babbitt metal.....	4																
Bags, other than paper.....	2																
Bags, paper, not including bags made in paper mills.....	1																
Baking powders and yeast.....	7																
Belting, leather.....	4																
Belting, woven.....	1																
Billiard tables and materials.....	3																
Bluing.....	4																
Boot and shoe findings.....	1																
Buttons.....	2																
Canning and preserving, fish.....	3																
Card cutting and designing.....	1																
Cars, steam-railroad, not including operations of railroad companies.....	2																
Cash registers and calculating machines.....	6																
Charcoal, not including production in the lumber and wood distillation industries.....	2																
China decorating, not including that done in potteries.....	2																
Cleansing and polishing preparations.....	10																
Clocks.....	2																
Cloth, sponging and refinishing.....	1																
Clothing, horse.....	2																
Coke, not including gas-house coke.....	1																
Dental goods.....	2																
Dyestuffs and extracts.....	1																
Enameling.....	3																
Engraving and diesinking.....	7																
Engraving, wood.....	3																
Envelopes.....	3																
Explosives.....	1																
Feathers and plumes.....	1																
Fertilizers.....	3																
Files.....	2																
Firearms.....	2																
Flags and banners.....	2																
Flax and hemp, dressed.....	1																
Foundry supplies.....	3																
Fuel, manufactured.....	1																
Furs, dressed.....	3																
Glass.....	2																
Gloves and mittens, leather.....	3																
Glucose and starch.....	1																
Gold and silver, reducing and refining, not from the ore.....	2																
Graphite, ground and refined.....	1																
Grindstones.....	2																
Hats, fur-felt.....	1																
Hats, straw.....	1																
Horseshoes, not made in steel works or rolling mills.....	1																
House-furnishing goods, not elsewhere specified.....	10																
Ink, printing.....	2																
Ink, writing.....	3																

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

1 DETROIT—All industries.....	2,036	120,075	1,540	3,725	11,208	3,999	99,603	Mh 105,164	De 89,819	96,776	79,684	16,127	452	513	\$293,493,334
2 Artificial stone products.....	16	101	9	11	4		77	Je 96	Fe 64	79	78		1		138,527
3 Automobile bodies and parts.....	90	14,270	30	369	601	220	13,050	Ap 14,225	De 10,923	12,073	11,726	326	19	2	21,103,624
4 Automobiles.....	32	23,640	2	610	1,968	671	20,389	Mh 22,336	Jy 17,205	19,935	19,675	223	33	1	61,728,935
5 Automobile repairing.....	7	50	9	5	3		33	Ap 52	Au 26	36	36				57,228
6 Awnings, tents, and sails.....	8	171	5	20	27	5	114	Je 159	De 85	82	57	25			139,862
7 Bookbinding and blank-book making	9	145	5	8	3	6	123	Mh 155	No 96	106	45	55	3	3	110,858
8 Boots and shoes.....	6	1,058	4	16	29	44	965	Au 1,071	My 802	905	552	338	9	6	1,246,772
9 Boxes, cigar.....	4	271	6	4	3	2	256	Se 263	My 249	253	68	155	10	20	154,021
10 Boxes, fancy and paper.....	11	400	10	16	10	12	352	My 365	Se 342	366	109	235	6	16	439,121
11 Boxes, wooden packing.....	10	406	3	21	5	8	369	De 394	Fe 338	415	387		28		916,191
12 Brass, bronze, and copper products..	38	4,296	16	105	208	87	3,880	Mh 4,133	De 3,607	3,684	3,536	66	77	5	9,127,528
13 Bread and bakery products.....	275	2,416	302	45	168	51	1,850			1,887	1,535	340	9	3	4,225,767
14 Biscuits and crackers.....	7	359	4	13	65	10	267	Je 310	Ap 234	260	166	94			1,002,651
15 All other.....	268	2,057	298	32	103	41	1,583	Oc 1,620	Fe 1,532	1,627	1,369	246	9	3	3,223,116
16 Brick, building.....	4	91	6	3			82	Au 134	De 39	94	94				92,901
17 Brooms, from broom corn.....	4	53	6		1	1	45	( <sup>1</sup> ) 45	( <sup>1</sup> ) 45	45	44	1			65,038
18 Butter.....	5	80	1	8	7	7	56	Je 62	No 50	54	54				260,321
19 Carriages and wagons and materials.	27	318	37	11	8	7	255	Au 279	Ja 233	265	251	14			511,377
20 Chemicals.....	7	1,672		36	135	12	1,489	Ja 1,613	De 1,387	1,362	1,332	27	1	2	9,785,510
21 Cleansing and polishing preparations.	7	21	6	4	5	1	5	Se 7	Je 3	6	5	1			12,741
22 Clothing, men's.....	13	1,869	11	23	110	79	1,646	Fe 1,938	Jy 1,425	1,670	153	1,517			2,469,238
23 Clothing, women's.....	19	1,123	14	15	18	6	1,070			873	75	792	2	4	767,292
24 Shirt waists, dresses, and wrap-pers.	11	1,047	6	14	15	6	1,006	Ja 1,856	Jy 524	813	66	741	2	4	720,552
25 All other.....	8	76	8	1	3		64	Jy 69	De 54	60	9	51			46,740
26 Coffee, roasting and grinding.....	5	81		7	28	6	40	De 42	Ja 38	42	29	13			338,172
27 Coffins, burial cases, and under-takers' goods.	7	134	12	4	14	2	102	Jy 105	Oc 100	100	78	20	1	1	160,825
28 Confectionery.....	32	565	33	22	28	22	460	De 518	Ja 427	513	190	305	1	17	675,266
29 Coopers.....	5	69	6	1		1	61	Jy 73	My 51	62	62				129,153
30 Copper, tin, and sheet-iron products.	68	2,231	67	92	81	34	1,957	Ap 2,173	De 1,689	1,840	1,531	304	5		3,467,555
31 Cutlery and tools, not elsewhere specified.	17	397	13	25	17	12	330	Jy 348	No 317	330	322	2	6		782,005
32 Electrical machinery, apparatus, and supplies.	20	773	5	53	80	44	591	My 655	Fe 532	589	402	132	4	1	1,845,481
33 Electroplating.....	10	110	13	6	4	2	85	Se 95	Ja 74	85	80	3	2		52,711
34 Emery and other abrasive wheels.....	3	93		6	5	4	78	Ap 91	Se 67	70	51	19			164,783
35 Engines, steam, gas, and water.....	14	2,707	4	76	250	74	2,303	Ja 2,658	De 1,538	2,658	2,645	11	2		5,266,373
36 Food preparations, not elsewhere specified.	13	243	10	9	39	4	181	Oc 185	Au 176	195	134	61			616,147

1 Owned power only.

2 Includes rented power, other than electric.



MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.							Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.			Primary horsepower.				Electric horsepower generated in establishments reporting.	
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.			Fuel and rent of power.	Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>		Water wheels and motors. <sup>1</sup>

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$60,570	\$145,924	\$421,220	\$15,000	\$2,520	\$19,444	\$592,187	\$150,742	\$2,073,741	\$1,330,812	4,295	1,725	8	2,562	290
63,176	64,252	295,374	923	7,810	10,362	969,937	13,545	1,754,750	771,268	1,149	985		164	10
128,839	207,150	788,227	2,968	14,406	44,890	3,864,574	53,558	5,891,274	1,973,142	2,269	1,078	7	1,184	530
57,192	152,585	429,446		3,874	31,587	3,271,098	29,820	4,474,288	1,173,370	1,599	818		781	345
71,647	54,565	358,781	2,968	10,532	13,308	593,476	23,738	1,416,986	799,772	670	260	7	408	185
101,475	31,917	414,721	18,297	8,798	43,268	1,354,680	353,089	2,678,151	970,382	2,644	1,815	133	30	666
46,013	10,417	317,731	300	4,421	8,031	323,967	15,119	949,751	610,665	2,901	2,550	12	20	319
113,090	85,896	780,655	81,650	1,361	31,930	1,607,349	10,677	3,119,971	1,501,945	6,968	6,689	106	25	148
20,725	14,456	229,943			11,142	755,883	33,844	1,215,467	422,730	1,311	800	41	25	445
1,994,576	5,196,809	11,207,975	736,780	233,980	1,747,405	52,816,242	2,949,803	92,944,054	37,178,009	47,686	33,494	490	800	15,820

Instruments, professional and scientific.....	8	Musical instruments, organs.....	3	Regalia and society badges and emblems.....	1	Suspenders, garters, and elastic woven goods.....	4
Iron and steel, bolts, nuts, washers, and rivets.....	3	Musical instruments, piano materials.....	2	Roofing materials.....	5	Type founding.....	1
Iron and steel, doors and shutters.....	2	Needles, pins, and hooks and eyes.....	2	Rubber goods, not elsewhere specified.....	6	Typewriters.....	1
Lasts.....	1	Oil, not elsewhere specified.....	1	Rules, ivory and wood.....	2	Upholstering materials, not elsewhere specified.....	7
Lead, bar, pipe, and sheet.....	1	Oilcloth and linoleum, floor.....	1	Screws, machine.....	4	Varnishes.....	5
Linen goods.....	1	Paper goods, not elsewhere specified.....	11	Sewing machines and attachments.....	1	Washing machines and clothes wringers.....	6
Liquors, distilled.....	1	Paper patterns.....	1	Silk goods, including throwsters.....	2	Waste.....	3
Lithographing.....	6	Pens, fountain and stylographic.....	1	Smelting and refining, copper.....	4	Watch cases.....	1
Malt.....	3	Pens, steel.....	1	Smelting and refining, not from the ore.....	4	Whips.....	1
Matches.....	1	Photographic apparatus.....	2	Soda-water apparatus.....	1	Windmills.....	1
Mats and matting, from cocoa fiber and grass.....	1	Photographic materials.....	39	Stationary goods, not elsewhere specified.....	4	Window and door screens and weather strips.....	13
Minerals and earths, ground.....	1	Pickles, preserves, and sauces.....	1	Stencils and brands.....	2	Wood preserving.....	1
Motocycles, bicycles, and parts.....	4	Pipes, tobacco.....	1	Surgical appliances.....	7		
		Printing and publishing, music.....	3				
		Pulp, from fiber other than wood.....	1				
		Pulp wood.....	1				

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$10,186,829	\$16,094,871	\$69,446,759	\$1,580,608	\$1,669,979	\$7,078,424	\$216,802,396	\$5,446,476	\$400,347,912	\$178,099,040	180,608	100,547	2,592	155	77,314	36,940	1
10,221	3,037	48,677	790	4,996	877	48,225	1,764	151,060	101,071	98		3		95		2
992,042	785,229	10,242,530	7,688	157,757	182,366	19,357,429	416,237	38,468,974	18,695,308	14,377	1,910	235		12,232	760	3
2,180,703	2,607,378	16,125,914	18,369	81,476	596,660	80,815,885	792,668	125,006,970	43,988,417	25,081	10,885	100		14,096	6,169	4
6,800	2,580	23,299		1,176	586	13,824	1,471	72,072	56,777	54		6		48		5
24,683	18,556	80,263	1,500	6,040	1,507	170,267	1,576	335,521	163,678	22				22		6
14,254	8,432	58,791	5,211	7,910	505	30,747	1,363	159,582	127,472	61				61		7
42,332	73,169	430,197		22,433	12,924	1,003,326	10,828	2,254,502	1,240,348	531	325			206	107	8
0,300	4,056	98,792		3,540	1,771	136,122	3,454	278,735	139,159	205	100	90		15		9
34,499	19,405	144,452		14,836	4,298	182,690	0,803	490,882	301,839	193	65			128	39	10
50,147	12,309	234,625		3,394	6,670	372,305	15,167	810,085	422,613	1,493	975			518	33	11
343,006	315,085	2,485,339	6,632	16,304	79,678	9,967,187	328,915	14,629,751	4,333,649	13,074	10,678	79		2,317	3,458	12
106,302	301,653	1,200,261	1,520	108,529	41,116	4,215,231	147,314	7,488,821	3,128,276	1,827	760	21		1,046	1,007	13
14,785	119,882	98,611		11,810	5,543	426,511	13,504	861,147	411,132	250	205			45		14
91,517	181,771	1,101,650	1,520	96,719	35,573	3,788,720	133,810	6,637,674	2,715,144	1,577	555	21		1,001	1,007	15
3,837		57,388	6,210	2,100	1,967	13,967	32,744	131,784	85,073	375	335			40		16
	1,300	36,574			598	91,420	1,061	140,572	48,091	27		2		25		17
16,835	12,630	40,104		7,245	677	883,750	12,084	1,107,109	211,272	180	52			128		18
18,575	9,117	182,310	625	20,860	3,952	268,497	6,547	560,434	285,390	286		10		276		19
148,720	177,205	1,105,868	259,503	1,000	99,389	1,177,919	455,517	3,874,528	2,241,092	13,899	10,216			3,683	1,219	20
1,250	3,738	2,103	36	1,715	110	10,594	214	27,187	16,379	4				4		21
78,756	80,128	743,499	23,235	13,480	20,110	2,206,291	11,178	3,770,564	1,553,095	803	740			63	57	22
38,300	18,680	484,260	1,550	15,955	5,832	584,367	10,374	1,405,732	810,901	229				229		23
37,800	16,961	459,554	1,550	13,500	5,638	496,513	9,441	1,260,822	754,868	189				189		24
500	1,719	24,706		2,455	194	87,854	993	144,910	56,123	40				40		25
27,100	31,019	29,032	73	8,265	2,605	785,742	5,566	964,712	173,404	143				143	140	26
7,200	15,862	66,967		7,393	2,017	125,546	2,375	275,331	147,410	170	155			15	1	27
48,394	41,847	229,864	354	72,067	5,633	862,880	20,801	1,485,569	601,888	616	334	3		279	67	28
1,200	676	39,049	1,500	12	2,178	86,183	1,048	167,779	80,548	40	25	4		11		29
172,258	107,768	1,162,840	8,610	31,847	34,402	2,059,505	48,392	4,809,116	2,261,219	2,106	1,394	15		697	542	30
43,515	28,182	254,488	3,700	10,914	7,446	197,158	15,398	650,913	438,357	837	150			687		31
161,807	106,194	334,444	2,621	13,930	11,681	1,190,116	32,828	2,240,405	1,017,461	1,097	25	150		921		32
7,600	5,146	67,032	25	7,425	476	20,928	7,322	133,401	105,151	256		52		204		33
15,930	9,104	42,961		1,620	2,957	117,205	5,923	225,003	101,875	164	100			64		34
218,364	234,159	1,941,903	90,056	155,063	44,786	3,644,609	74,614	7,156,018	3,436,795	4,132	1,510	20		2,602	2,576	35
21,810	34,211	90,555	3,289	5,314	4,986	1,754,626	24,126	2,067,478	288,726	1,841	1,660	8		173		36

<sup>3</sup> Same number reported for one or more other months.<sup>4</sup> Same number reported throughout the year.

## MANUFACTURES.

TABLE 38.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS OR

INDUSTRY AND CITY.	Num- of estab- lish- ments.	PERSONS ENGAGED IN THE INDUSTRY.									WAGE EARNERS DEC. 15, OR NEAR- EST REPRESENTATIVE DAY.				Capital.
		Total.	Pro- pri- etors and firm mem- bers.	Salar- ied offi- cers, super- in- tend- ents, and man- agers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Fe- male.	Aver- age num- ber.	Number, 15th day of—			Male.	Fe- male.	Male.	Fe- male.	
								Maximum month.	Minimum month.						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

DETROIT—Continued.																		
1	Foundry and machine-shop products	151	8,149	73	367	579	256	6,874				6,075	5,927	133	14	1	\$23,427,319	
2	Boiler shops and foundries.....	18	2,420	9	58	77	17	2,259	Mh	2,694	De	1,752	2,052	1,960	85	6	1	2,935,631
3	Machine shops.....	133	5,729	64	309	502	239	4,615	Ap	4,972	De	3,985	4,023	3,967	48	8		20,491,688
4	Fur goods.....	18	319	14	20	37	41	207	De	412	Ap	67	324	135	182	4	3	888,056
5	Furnishing goods, men's.....	6	88	5	2	6	5	70	No	90	Au	42	82	8	74			44,052
6	Furniture and refrigerators.....	29	1,997	20	57	78	55	1,787	Fe	1,979	Je	1,674	1,813	1,656	144	11	2	3,285,875
7	Glass, cutting, staining, and orna- menting.....	4	70		8	4		58	Ja	61	My	52	60	59	1			28,039
8	Hardware.....	10	524	2	18	21	9	474	Fe	517	Au	401	472	463	6	3		497,121
9	Hosiery and knit goods.....	9	331	3	24	18	6	280	Se	300	Au	260	266	41	217		8	742,681
10	House-furnishing goods, not else- where specified.....	6	48	6	5	8	8	21	Oc	29	Ja	14	27	13	14			120,931
11	Iron and steel, steel works and roll- ing mills.....	4	521		17	40	8	456	Ap	558	Au	385	418	411	7			1,616,083
12	Iron and steel forgings.....	7	436	2	12	16	7	399	No	473	Se	316	413	409	4			1,075,061
13	Jewelry.....	18	184	18	14	7	12	133	De	145	Jy	126	141	118	11	12		230,439
14	Leather, tanned, curried, and finished	3	333		11	17	4	301	Fe	328	Ap	265	253	253				1,533,133
15	Liquors, malt.....	19	1,418	11	72	151	19	1,165	Je	1,293	Fe	1,078	1,135	1,126	9			8,636,110
16	Lumber, planing-mill products, not including planing mills connected with sawmills.....	34	1,639	21	90	91	27	1,410	Je	1,542	De	1,277	1,284	1,282		2		4,437,503
17	Marble and stone work.....	19	258	20	18	12	6	202	Au	237	Fe	143	193	193				484,975
18	Mineral and soda waters.....	19	223	26	13	13	5	166	Jy	219	De	128	130	128	2			320,222
19	Models and patterns, not including paper patterns.....	15	245	15	21	1	7	201	Au	225	Ja	151	171	170		1		117,329
20	Musical instruments and materials, not specified.....	5	8	6				2	No	3	Ja	1	2	2				7,362
21	Paint and varnish.....	10	858	1	59	331	92	325	Mh	383	De	253	332	307	23	1	1	3,567,635
22	Patent medicines and compounds, and druggists' preparations.....	63	4,669	41	98	1,096	539	2,895	Mh	3,013	Jy	2,789	2,820	1,369	1,428	13	10	15,037,457
23	Photo-engraving.....	9	141	7	7	18	5	104	Oc	112	Jy	98	107	102	3	2		104,070
24	Pickles, preserves, and sauces.....	13	601	12	31	72	26	460					441	191	249		1	2,231,579
25	Preserves.....	4	40		8	9	5	18	Ja	21	Je	15	17	9	8			40,255
26	Pickles and sauces.....	9	561	12	23	63	21	442	Ja	527	Jy	357	424	182	241		1	2,191,324
27	Plumbers' supplies, not elsewhere specified.....	7	199	5	12	10	4	168	My	188	Oc	147	181	178	3			447,014
28	Printing and publishing, book and job.....	166	2,695	144	165	297	116	1,973					2,008	1,501	475	29	3	3,778,095
29	Job printing.....	154	2,388	138	144	150	85	1,871	Oc	1,953	Au	1,790	1,911	1,416	463	29	3	3,394,084
30	Book publishing without print- ing.....	7	185	3	11	143	28											169,102
31	Linotype work and typesetting..	5	122	3	10	4	3	102	Oc	108	Fe	95	97	85	12			214,900
32	Printing and publishing, newspapers and periodicals.....	75	1,934	30	100	730	200	874					1,185	1,107	71	7		3,119,227
33	Printing and publishing.....	6	1,299	2	37	518	79	663	De	702	Ja	635	956	897	57	2		2,478,454
34	Printing, publishing, and job printing.....	22	449	12	31	143	53	210	De	224	Ja	196	228	210	14	4		490,318
35	Publishing without printing.....	47	186	16	32	69	68	1	( <sup>1</sup> )	1	( <sup>1</sup> )	1	1			1		155,455
36	Saddlery and harness.....	18	103	19	1	4	1	78	My	96	Oc	71	82	71	11			126,079
37	Sausage.....	3	31	6		4	1	20	De	28	Je	18	22	22				27,952
38	Saws.....	3	10	4		1	1	4	Ap	9	De	3	4	4				3,950
39	Shipbuilding, wooden, including boat building.....	6	61	4	4	3	1	49	My	74	No	20	44	44				108,232
40	Shirts.....	7	57	6	4	11		36	Mh	45	De	27	42	8	34			51,280
41	Signs and advertising novelties.....	10	73	9	7	7	4	46	Au	55	De	40	48	45	3			31,678
42	Slaughtering and meat packing.....	10	1,268	5	26	126	29	1,082	Oc	1,135	Ap	999	1,205	1,205				4,093,337
43	Smelting and refining, not from the ore.....	3	20	2	3		1	14	My	19	De	13	13	13				51,013
44	Soap.....	5	74	5	5	9	4	51	Se	56	Ja	46	55	48	5	2		575,265
45	Statuary and art goods.....	4	56	7	6	1	1	41	Je	45	Ap	36	38	38				30,025
46	Stoves and furnaces, including gas and oil stoves.....	8	2,751		66	286	37	2,362	Mh	2,833	De	1,439	2,449	2,414	5	30		7,789,515
47	Structural ironwork, not made in steel works or rolling mills.....	21	946	9	55	101	11	770	No	822	Ap	709	697	691		6		1,706,289
48	Tobacco, chewing and smoking, and snuff.....	14	2,112	10	22	277	24	1,779	My	1,866	No	1,701	1,755	469	1,185	16	85	4,816,286
49	Tobacco, cigars.....	143	5,719	145	66	109	47	5,352	De	5,495	Ap	4,833	5,827	499	5,021	9	298	3,688,435
50	Trunks and valises.....	6	73	4	6	9	5	49	Oc	54	Ja	43	45	38	5	2		116,956

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.

## MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manu- facture.	POWER.						
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.				Elec- tric horse- power gen- erated in estab- lish- ments re- port- ing.		
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, includ- ing in- ternal revenue and cor- poration income.	Principal materials.	Fuel and rent of power.			Total.	Steam en- gines. <sup>1</sup>	In- ternal- com- bus- tion en- gines. <sup>2</sup>	Water wheels and mo- tors. <sup>1</sup>		Electric (rent- ed).	
\$826,838 143,036 683,802 34,285 2,957	\$941,315 88,827 852,488 83,684 5,553	\$5,155,229 1,785,455 3,369,774 154,729 27,079	\$63,961 1,508 62,453 4,350 .....	\$106,675 18,160 88,515 31,673 3,853	\$156,074 33,467 122,607 6,204 267	\$5,951,918 1,376,946 4,574,972 622,066 97,516	\$426,889 190,367 236,522 4,429 880	\$17,185,368 4,264,398 12,920,970 1,101,568 148,238	\$10,806,561 2,697,085 8,109,476 475,073 49,842	12,451 3,964 8,487 190 36	5,945 2,659 3,286 ..... .....	470 23 447 150 5	150 ..... ..... ..... .....	5,886 1,232 4,604 185 362	2,706 1,486 1,220 ..... .....	1 2 3 4 5
124,902 11,215	159,887 4,800	1,107,958 40,817	2,481 .....	11,064 5,040	40,910 750	1,319,058 76,733	40,272 1,279	3,383,262 145,699	2,023,932 67,687	2,899 48	2,585 .....	62 .....	..... .....	252 48	714 6	7
45,088 42,735 3,962	20,338 24,028 5,613	277,988 102,133 10,464	1,795 1,775 .....	9,780 8,105 2,802	4,909 7,988 372	380,666 357,234 114,226	18,419 7,802 1,037	905,310 614,832 165,195	506,225 249,796 49,932	484 245 86	180 150 .....	34 ..... .....	..... ..... .....	270 95 86	107 ..... .....	8 9 10
49,986	60,474	316,826	.....	427	11,183	469,366	91,927	1,116,541	555,248	3,489	2,190	.....	.....	1,299	390	11
24,206 19,090	18,125 11,868	329,178 101,218	418 3,066	4,169 12,462	10,810 1,662	537,315 152,139	45,697 1,910	1,012,373 385,962	429,361 231,913	1,268 57	600 .....	..... .....	..... .....	668 57	368 .....	12 13
45,900 246,531	54,328 207,111	203,303 1,019,906	..... .....	..... 1,100	3,076 1,364,892	1,268,481 2,365,641	13,690 156,989	1,715,017 9,409,722	432,846 6,887,092	765 6,088	760 4,199	500 .....	..... .....	5 1,389	205 .....	14 15
175,507	122,162	988,884	.....	18,491	54,503	3,302,072	54,784	5,566,510	2,209,654	5,503	4,315	196	.....	992	253	16
26,530 26,288 27,363	16,470 17,613 6,140	177,530 116,995 186,429	16,361 ..... .....	4,254 10,508 7,012	3,773 3,649 1,597	194,861 235,894 38,497	7,788 3,660 4,994	521,819 539,083 306,300	319,170 299,529 262,809	650 148 149	180 ..... .....	44 8 .....	..... ..... .....	426 140 149	4 ..... .....	17 18 19
.....	.....	920	40	742	5	920	138	9,626	8,568	8	.....	.....	.....	8	.....	20
196,904 366,766	385,270 1,947,677	213,688 1,712,583	3,000 7,851	14,400 100,792	37,360 171,043	1,923,642 5,940,264	30,990 75,637	3,867,143 13,691,495	1,912,511 7,675,594	1,090 2,214	422 1,840	20 30	.....	648 344	196 1,944	21 22
17,700 65,018 5,894 59,124	22,565 96,810 4,751 92,059	104,866 197,870 9,912 187,958	17,548 ..... ..... .....	11,104 3,906 3,306 600	1,170 13,516 523 12,993	31,842 1,368,821 74,338 1,294,483	2,843 9,941 1,372 8,569	282,297 1,973,696 106,580 1,867,116	247,612 594,934 30,870 564,064	61 417 40 377	..... 332 35 297	..... ..... ..... .....	..... ..... ..... .....	61 35 5 80	..... 63 ..... 63	23 24 25 26
21,378	13,542	122,575	380	2,860	3,582	282,739	10,727	580,606	287,140	337	200	.....	.....	137	120	27
358,186	422,929	1,436,586	107,189	128,407	33,362	1,708,914	54,686	5,370,012	3,606,412	4,704	.....	3	.....	4,701	.....	28
317,991 25,006	222,362 190,180	1,335,460 .....	40,804 65,523	119,532 4,819	28,983 3,364	1,683,116 11,835	50,219 .....	4,850,528 310,058	3,117,193 298,223	2,050 .....	.....	3	.....	2,047	.....	29 30
15,189	10,387	101,126	862	4,056	1,015	13,963	4,467	209,426	190,996	2,654	.....	.....	.....	2,654	.....	31
256,860	871,381	777,724	229,029	49,232	35,700	1,820,588	38,392	5,779,364	3,920,384	1,582	.....	1	.....	1,581	.....	32
116,971 73,827	609,934 151,445	638,261 139,313	275 17,236	14,744 23,472	31,710 3,141	1,370,091 389,472	30,889 7,230	4,215,478 950,048	2,814,498 553,346	1,303 277	.....	.....	.....	1,303 276	.....	33 34
66,062 500	110,002 3,000	150 50,952	211,518 .....	11,016 10,147	849 648	61,025 144,317	273 1,801	613,838 236,668	552,540 90,550	2 64	.....	.....	.....	2 64	.....	35 36
..... ..... 6,308	4,500 1,044 3,805	13,906 2,256 41,875	..... 35 172	720 1,261 3,620	193 6 1,048	192,973 2,408 40,998	1,725 1 1,335	244,000 11,719 102,686	49,302 9,310 60,352	40 10 55	..... 10 .....	..... ..... 16	..... ..... .....	40 ..... 39	..... ..... .....	37 38 39
10,300 9,722	12,673 8,991	21,075 37,984	..... 1,075	11,793 3,173	726 164	55,011 30,740	338 283	126,747 116,488	71,398 85,465	9 5	.....	.....	.....	9 5	.....	40 41
97,730 2,650	150,231 230	747,224 9,060	..... .....	1,860 720	24,092 133	18,227,622 21,925	66,326 1,100	20,077,148 42,121	1,783,200 19,096	3,007 13	2,545 .....	.....	.....	462 13	820 .....	42 43
11,100 7,920 263,831	14,620 612 431,604	33,954 44,387 1,747,947	..... 500 .....	1,194 2,160 1,380	4,797 180 54,177	311,800 4,629 1,717,879	6,371 315 70,247	449,792 76,895 5,921,410	131,621 71,951 4,133,284	161 5 3,358	153 .....	..... 132	..... .....	8 5 441	..... ..... 1,120	44 45 46
121,007	105,651	576,938	5,945	12,795	15,717	1,080,157	33,215	2,129,542	1,016,170	2,222	.....	3	.....	2,219	.....	47
115,757	319,308	699,612	.....	21,502	2,339,915	3,463,262	35,068	8,540,267	5,041,937	1,030	707	14	.....	359	459	48
85,843 10,671	185,012 9,150	2,164,807 37,769	400 .....	65,611 6,900	956,959 1,451	3,792,700 53,104	17,927 1,307	8,503,839 168,322	4,693,212 113,911	3,956 40	.....	.....	.....	3,956 40	.....	49 50

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> Same number reported throughout the year.

## MANUFACTURES.

TABLE 38.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS OR

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

<b>DETROIT—Continued.</b>															
1	Window and door screens and weather strips.	3	42	4	3	5	7	23	Oc <sup>3</sup>	25	Mh <sup>3</sup>	22	22	22	\$240,026
2	Wirework, including woven-wire fencing.	10	237	8	11	8	4	206	Ja	230	De	170	172	149	383,745
3	Wood, turned and carved.	9	109	6	7	1	2	93	Fe	95	No	91	91	88	143,038
4	All other industries *	248	18,591	160	561	2,683	938	14,249					13,158	11,331	66,883,952

* All other industries embrace—	2	Carriages and sleds, children's.	2	Engraving, steel and copper plate, including plate printing.	8	Gas machines and gas and water meters.	4
Agricultural implements.	2	Cars and general shop construction and repairs by steam-railroad companies.	1	Engraving, wood.	2	Gold and silver, reducing and refining, not from the ore.	1
Artificial flowers.	1	Cars, steam-railroad, not including operations of railroad companies.	1	Envelopes.	1	Grease and tallow, not including lubricating greases.	2
Artificial limbs.	3	Cash registers and calculating machines.	5	Fancy articles, not elsewhere specified.	1	Hair work.	4
Artists' materials.	1	Cement.	1	Fertilizers.	1	Handstamps.	6
Babbitt metal.	2	Cloth, sponging and refinishing.	1	Files.	1	Hats and caps, other than felt, straw, and wool.	4
Baking powders.	2	Confectionery (ice cream).	3	Flags and banners.	2	Hats, straw.	1
Baskets, and rattan and willow ware.	1	Corsets.	3	Flavoring extracts.	2	Horseshoes, not made in steel works or rolling mills.	1
Belting, leather.	1	Cotton goods.	1	Flour-mill and gristmill products.	3	Ice, manufactured.	3
Billiard tables and materials.	1	Dental goods.	2	Foundry supplies.	3	Ink, printing.	1
Blacking, stains, and dressings.	2	Enameling.	2	Fuel, manufactured.	1		
Bluing.	3	Engraving and diesinking.	7	Furs, dressed.	1		
Brushes.	4			Gas and electric fixtures.	3		
Buttons.	1			Gas, illuminating and heating.	1		
Card cutting and designing.	1						
Carpets, rag.	1						

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.

MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$14,772	\$7,069	\$7,944	\$1,000	\$2,800	\$1,739	\$37,239	\$459	\$77,343	\$39,645	47	.....	.....	.....	47	.....	1
22,862	7,380	108,474	1,127	7,151	6,550	161,856	4,130	424,207	258,221	177	160	.....	.....	17	150	2
13,544	2,142	55,607	.....	1,500	1,203	51,036	4,120	181,031	125,875	272	190	.....	.....	82	.....	3
1,533,377	4,190,311	10,077,129	668,013	160,118	514,549	24,456,786	1,598,936	55,640,063	29,584,341	36,897	27,704	261	.....	8,932	10,316	4

Ink, writing.....	2	Millinery and lace goods.....	11	Printing materials.....	3	Steam fittings and steam and hot-water heating apparatus.....	6
Instruments, professional and scientific.....	4	Mirrors, framed and unframed.....	2	Pulp, from fiber other than wood.....	1	Steam packing.....	2
Iron and steel, blast furnaces.....	1	Motorcycles, bicycles, and parts.....	2	Pumps, not including power pumps.....	1	Stencils and brands.....	1
Iron and steel, bolts, nuts, washers, and rivets.....	2	Mucilage and paste.....	1	Pumps, steam and other power.....	1	Stereotyping and electrotyping.....	3
Iron and steel, doors and shutters.....	2	Musical instruments, pianos.....	3	Roofing materials.....	1	Surgical appliances.....	2
Lamps.....	3	Needles, pins, and hooks and eyes.....	2	Rubber goods, not elsewhere specified.....	1	Toys and games.....	1
Lasts.....	1	Oil, not elsewhere specified.....	1	Salt.....	1	Type founding.....	1
Lead, bar, pipe, and sheet.....	1	Oilcloth and linoleum, floor.....	1	Sand-lime brick.....	2	Umbrellas and canes.....	3
Leather goods, not elsewhere specified.....	8	Optical goods.....	5	Scales and balances.....	2	Upholstering materials, not elsewhere specified.....	2
Liquors, vinous.....	1	Paper and wood pulp.....	1	Screws, machine.....	2	Vinegar.....	1
Lithographing.....	5	Paper goods, not elsewhere specified.....	2	Shipbuilding, iron and steel.....	2	Wall plaster.....	2
Looking-glass and picture frames.....	6	Paper patterns.....	1	Show cases.....	2	Waste.....	2
Malt.....	3	Paving materials.....	2	Sporting and athletic goods.....	2	Window shades and fixtures.....	4
Mattresses and spring beds.....	6	Pens, fountain and stylographic.....	1	Stationery goods, not elsewhere specified.....	1		
		Pottory.....	3				
		Printing and publishing, music.....	2				

\* Same number reported for one or more other months.

## MANUFACTURES.

TABLE 38.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS OR

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

1	GRAND RAPIDS—All industries.	594	20,782	466	743	1,427	719	17,427	Se 17,893	De 16,711	17,579	14,750	2,772	40	8	\$46,842,756
2	Artificial stone products.	7	19	4	2	.....	.....	13	Je <sup>s</sup> 19	Fe 1	18	18	.....	.....	.....	33,138
3	Automobile bodies and parts.	5	38	3	2	2	2	29	My 32	De <sup>s</sup> 27	27	27	.....	.....	.....	47,202
4	Automobiles.	3	82	3	2	14	5	58	Ja 69	De 42	59	59	.....	.....	.....	374,230
5	Automobile repairing.	6	23	7	1	2	.....	13	Je <sup>s</sup> 14	Jy 11	16	16	.....	.....	.....	13,643
6	Brass and copper products.	7	476	9	7	21	7	432	De 473	My 408	470	396	73	1	.....	722,095
7	Bread and other bakery products.	67	579	73	9	39	17	441	Jy 468	Fe 418	448	307	133	3	5	1,420,033
8	Butter.	6	59	3	6	14	9	27	Je 41	Ja <sup>s</sup> 20	21	21	.....	.....	.....	171,327
9	Carpets, rag.	3	11	3	.....	.....	.....	8	( <sup>4</sup> ) 8	( <sup>4</sup> ) 8	8	6	2	.....	.....	10,265
10	Carriages and wagons and materials.	13	125	12	6	1	2	104	Au <sup>s</sup> 106	Je 101	106	104	2	.....	.....	203,568
11	Clothing, men's, including shirts.	8	239	4	7	12	17	199	Ap 230	Au 175	195	24	171	.....	.....	144,217
12	Coffins, burial cases, and undertakers' goods.	4	106	1	7	30	10	58	My 67	Fe <sup>s</sup> 52	60	42	18	.....	.....	332,045
13	Confectionery and ice cream.	12	254	11	6	28	6	203	.....	.....	194	84	110	.....	.....	432,357
14	Confectionery.	7	230	5	6	23	6	185	Oc 237	Ja 154	183	73	110	.....	.....	411,932
15	Ice cream.	5	24	6	.....	.....	.....	18	Jy <sup>s</sup> 29	Ja <sup>s</sup> 11	11	11	.....	.....	.....	20,425
16	Copper, tin, and sheet-iron products.	11	76	14	5	1	2	54	Se 82	Ja 36	43	39	4	.....	.....	39,190
17	Flour-mill and gristmill products.	9	170	9	14	27	13	107	Je 111	No 100	101	100	1	.....	.....	917,921
18	Foundry and machine-shop products.	42	1,294	40	56	70	66	1,062	.....	.....	1,065	982	81	2	.....	2,445,792
19	Foundries.	6	377	.....	8	3	4	362	Mh 415	De 316	316	292	24	.....	.....	506,822
20	Machine shops.	36	917	40	48	67	62	700	Ja 760	Se 652	749	690	57	2	.....	1,941,970
21	Furniture and refrigerators.	67	7,810	26	232	379	182	6,991	Fe 7,204	No 6,756	7,062	6,936	104	22	.....	17,314,174
22	Hardware.	6	206	2	10	15	8	171	Mh 188	Se 159	162	135	27	.....	.....	443,870
23	Hosiery and knit goods.	4	454	2	10	7	13	422	Se 525	Ja 324	354	64	289	.....	1	759,927
24	Jewelry.	3	9	4	.....	.....	.....	5	Je 6	Fe 4	6	4	1	1	.....	1,625
25	Leather, tanned, curried, and finished.	3	187	.....	5	3	2	177	Mh 190	Oc 161	170	169	1	.....	.....	586,222
26	Liquors, malt.	3	196	.....	11	11	.....	174	Je 229	Fe 146	152	145	7	.....	.....	2,120,995
27	Lumber, planing-mill products, not including planing mills connected with sawmills.	12	441	8	25	21	16	371	Au 393	De 337	341	291	48	2	.....	1,406,937
28	Marble and stone work.	7	52	7	.....	8	1	36	My <sup>s</sup> 39	Ja <sup>s</sup> 33	38	38	.....	.....	.....	110,661
29	Mineral and soda waters.	5	26	6	1	1	2	16	Je 23	Ja <sup>s</sup> 12	14	13	.....	1	.....	47,093
30	Patent medicines and compounds and druggists' preparations.	16	140	11	14	11	40	64	Oc <sup>s</sup> 67	Fe 56	67	32	35	.....	.....	225,109
31	Printing and publishing, book and job.	43	652	28	45	37	23	519	Fe 564	Je 483	513	384	115	13	1	96,757
32	Printing and publishing, newspapers and periodicals.	35	576	20	38	153	57	308	.....	.....	294	267	27	.....	.....	1,011,405
33	Printing, publishing, and job printing.	18	551	15	32	148	48	308	Mh 324	Se 293	294	267	27	.....	.....	1,002,070
34	Publishing without printing.	17	25	5	6	5	9	.....	.....	.....	.....	.....	.....	.....	.....	0,329
35	Stoves and hot-air furnaces.	4	38	6	.....	1	1	30	Oc 42	Jy 25	27	27	.....	.....	.....	28,752
36	Structural ironwork, not made in steel works or rolling mills.	3	24	6	2	3	1	12	No 15	Oc 10	12	12	.....	.....	.....	35,991
37	Tobacco, cigars.	32	746	30	14	31	4	667	Se 722	Ja 574	717	114	603	.....	.....	468,363
38	Wood, turned and carved.	10	67	16	2	1	1	47	Ap <sup>s</sup> 55	Se 37	48	48	.....	.....	.....	46,609
39	All other industries*.	138	5,607	98	205	485	210	4,609	.....	.....	4,771	3,846	920	4	1	14,828,243

\*All other industries embrace—

Artificial limbs.	1	Canning, vegetables.	1	Dairymen's and poultrymen's supplies.	1	Gas, illuminating and heating.	1
Awnings, tents, and sails.	2	Cars and general shop construction and repairs by electric-railroad companies.	1	Electroplating.	2	Glass, cutting, staining, and ornamenting.	1
Babbitt metal.	1	Cars and general shop construction and repairs by steam-railroad companies.	1	Engines, steam, gas, and water.	2	Grease and tallow, not including lubricating greases.	1
Baking powders.	1	Chemicals.	1	Engraving, steel and copper plate, including plate printing.	1	Hair work.	1
Baskets, and rattan and willow ware.	1	Clocks.	1	Fancy articles, not elsewhere specified.	5	Hats and caps, other than felt, straw, and wool.	1
Belting, leather.	3	Clothing, women's.	2	Feathers and plumes.	1	House-furnishing goods, not elsewhere specified.	1
Bookbinding and blank-book making.	4	Coffee, roasting and grinding.	2	Flavoring extracts.	2	Ink, writing.	1
Boots and shoes.	2	Cooperage.	1	Food preparations, not elsewhere specified.	1	Iron and steel forgings.	1
Boxes, cigar.	1	Corsets.	2	Fur goods.	3	Lithographing.	1
Boxes and cartons, paper.	2	Cutlery and edge tools.	2	Furnishing goods, men's.	2	Lumber and timber products.	1
Brick, building.	1						
Brooms, from broom corn.	2						
Brushes.	2						

\*Owned power only.

\*Includes rented power, other than electric.



MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$1,905,191	\$2,173,868	\$10,296,498	\$257,990	\$253,676	\$692,915	\$23,092,464	\$902,470	\$49,792,200	\$25,797,266	30,393	20,344	886	1,056	8,107	4,017	1
1,500	9,657	575	205	12,913	213	34,306	21,180	59	40	7	12	24	30	17	4	2
4,055	3,539	15,344	2,108	265	50,703	1,218	103,253	51,332	24	40	30	17	4	2	3	3
4,904	22,977	46,127	1,500	2,792	59,632	2,399	146,429	84,398	70	40	30	17	4	2	3	4
22,000	37,033	256,575	650	2,926	8,223	766	27,880	18,891	22	5	30	17	4	2	3	5
13,385	76,970	226,776	17,876	9,324	920,944	22,475	1,682,198	738,779	244	70	174	116	9	17	10	6
7,080	19,641	19,399	4,020	676	616,399	4,167	747,184	126,618	126	10	116	9	17	10	6	7
12,448	2,850	71,902	216	140	907	245	7,495	6,343	14	5	74	45	206	340	7	8
25,228	42,412	65,976	2,015	2,455	65,270	2,982	199,341	131,089	139	65	74	45	206	340	7	9
16,050	45,577	37,409	7,776	2,586	190,451	1,857	397,164	204,856	45	206	74	45	206	340	7	10
28,320	33,857	94,943	15,388	4,337	397,802	8,362	643,952	237,788	326	235	91	25	206	340	7	11
28,320	33,857	79,013	13,708	4,114	332,492	5,921	529,376	190,963	235	235	91	25	206	340	7	12
4,250	1,803	15,930	1,680	223	65,310	2,441	114,576	46,825	91	10	91	25	206	340	7	13
29,112	36,900	77,581	1,834	815	68,742	474	130,354	61,638	35	10	91	25	206	340	7	14
144,746	102,757	688,079	531	11,710	2,633,930	18,311	3,141,730	489,489	1,537	860	25	425	227	156	17	15
17,860	4,985	226,864	19,297	29,778	670,501	55,347	1,972,570	1,246,722	2,017	740	108	180	989	439	18	16
126,886	97,772	461,215	3,061	7,286	173,271	29,363	521,524	318,900	457	300	157	105	19	105	19	17
698,708	679,476	4,353,023	19,297	22,492	497,230	25,994	1,451,046	927,822	1,560	440	108	180	832	334	20	18
21,604	26,016	102,230	37,098	203,516	5,558,052	160,613	14,940,141	9,221,476	10,253	9,048	29	125	1,051	1,156	21	19
28,034	11,672	148,069	1,585	5,601	171,861	6,310	479,705	301,534	172	60	112	5	112	5	22	20
17,604	2,441	114,616	5,080	5,372	560,581	4,373	1,063,785	498,831	251	55	91	105	112	5	22	21
50,308	14,792	122,370	534	1,125	1,009,349	21,902	1,394,369	363,118	620	305	315	173	423	15	27	22
55,314	33,352	250,419	576	5,776	287,171	28,293	1,261,224	945,760	1,328	1,155	173	423	15	27	22	23
95,757	50,707	348,200	48,662	1,009,349	287,171	28,293	1,261,224	945,760	1,328	1,155	173	423	15	27	22	24
94,696	193,994	262,784	1,414	17,775	1,078,837	9,755	1,677,643	589,051	1,708	1,285	423	15	27	22	23	25
92,446	189,286	262,784	12,382	1,414	17,775	1,078,837	9,755	1,677,643	589,051	1,708	1,285	423	15	27	22	26
2,250	4,708	27,279	284	1,080	40,817	2,005	125,561	82,739	151	120	395	104	31	32	33	27
3,592	1,475	20,607	298	572	23,958	1,432	61,219	36,829	14	1	566	1	566	1	34	28
17,883	67,981	280,734	4,488	3,854	138,371	1,784	341,191	201,036	22	1	566	1	566	1	34	29
2,700	766	31,133	808	85	951	73,537	72,586	17	95	10	85	4	1	37	30	30
476,503	605,704	2,547,225	1,800	259	31,000	1,259	77,350	46,091	17	10	85	4	1	37	30	31
17,883	67,981	280,734	216	399	16,894	1,642	43,445	24,909	95	10	85	4	1	37	30	32
2,700	766	31,133	6,939	107,445	710,491	1,208	1,293,060	581,361	4	20	184	200	2,456	1,549	39	31
476,503	605,704	2,547,225	2,300	694	13,251	3,502	77,243	60,490	204	5,906	481	200	2,456	1,549	39	32
476,503	605,704	2,547,225	76,076	186,118	6,587,343	504,657	14,103,052	7,011,052	9,043	5,906	481	200	2,456	1,549	39	33

Mattresses and spring beds.....	3	Paper and wood pulp.....	1
Millinery and lace goods.....	1	Paper goods, not elsewhere specified.....	2
Mirrors, framed and unframed.....	1	Photo-engraving.....	1
Models and patterns, not including paper patterns.....	3	Photographic materials.....	1
Motorcycles, bicycles, and parts.....	2	Pickles, preserves, and sauces.....	1
Mucilage and paste.....	1	Plumbers' supplies, not elsewhere specified.....	1
Musical instruments and materials, not specified.....	4	Printing materials.....	2
Musical instruments, organs.....	1	Roofing materials.....	2
Musical instruments, pianos.....	1	Rubber goods, not elsewhere specified.....	2
Musical instruments, piano materials.....	1	Saddlery and harness.....	3
Optical goods.....	2	Sand-lime brick.....	1
Paints.....	2	Sausage.....	1
		Saws.....	2

<sup>1</sup> Same number reported for one or more other months.

Sewing machines and attachments.....	1	Stoves, gas and oil.....	1
Shipbuilding, wooden, including boat building.....	1	Surgical appliances.....	1
Show cases.....	1	Tools, not elsewhere specified.....	1
Signs and advertising novelties.....	1	Trunks and valises.....	2
Soap.....	3	Typewriters.....	1
Sporting and athletic goods.....	1	Umbrellas and canes.....	1
Stationery goods, not elsewhere specified.....	1	Upholstering materials, not elsewhere specified.....	2
Steam fittings and steam and hot-water heating apparatus.....	1	Vinegar and cider.....	1
Steam packing.....	1	Window and door screens and weather strips.....	3
Stencils and brands.....	1	Wirework, not elsewhere specified.....	3
Stereotyping and electrotyping.....	1	Wooden goods, not elsewhere specified.....	2

<sup>2</sup> Same number reported throughout the year.

## MANUFACTURES.

TABLE 38.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS OR

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number, 15th day of—		Male.	Female.	Male.	Female.		
								Maximum month.							Minimum month.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

1	SAGINAW—All industries.....	241	7,661	228	257	541	293	6,342	Mh 6,633	De 5,696	6,380	5,512	852	14	2	\$17,698,108
2	Automobiles, including bodies and parts.	7	514	2	15	35	15	447	Jy 523	No 309	391	391	.....	.....	.....	812,431
3	Bread and other bakery products....	18	202	17	6	16	14	149	Je 159	Ap 144	148	102	46	.....	.....	363,087
4	Carriages and wagons and materials..	6	22	7	.....	.....	.....	15	De 31	Fe 9	25	25	.....	.....	.....	33,275
5	Confectionery and ice cream.....	7	78	10	4	9	4	51	No 69	Ja 38	62	22	40	.....	.....	105,585
6	Cooperage and wooden goods, not elsewhere specified.	6	461	10	5	13	4	429	Ap 508	De 302	467	351	104	10	2	606,551
7	Copper, tin, and sheet-iron work.....	14	68	20	2	.....	4	92	Oc 65	Mh 30	46	46	.....	.....	.....	52,974
8	Engines, steam, gas, and water.....	3	118	4	9	3	6	46	Je 109	No 78	93	93	.....	.....	.....	151,166
9	Flour-mill and gristmill products.....	3	45	2	4	9	3	27	Je 30	Fe 25	28	26	2	.....	.....	306,980
10	Foundry and machine-shop products..	15	876	9	44	85	42	696	Ap 730	Ap 667	672	672	.....	.....	.....	2,661,240
11	Furniture.....	8	535	6	11	57	10	451	No 569	Je 416	446	445	1	.....	.....	1,422,573
12	Liquors, malt.....	5	109	3	10	10	2	84	Jy 120	Fe 59	93	93	.....	.....	.....	774,660
13	Lumber and timber products.....	11	717	12	16	25	12	652	Ap 785	De 449	702	697	2	3	.....	1,474,539
14	Marble and stone work.....	6	39	7	2	1	2	27	Je 37	De 13	29	29	.....	.....	.....	42,057
15	Patent medicines and compounds.....	4	15	1	3	2	3	6	Au 10	Ja 5	10	9	1	.....	.....	50,291
16	Printing and publishing, book and job.	13	77	19	.....	1	4	53	Je 57	De 50	49	42	7	.....	.....	94,485
17	Printing and publishing, newspapers and periodicals.	9	206	3	19	59	19	106	Ap 115	Au 95	112	102	9	1	.....	266,520
18	Tobacco manufactures.....	27	167	33	6	3	1	124	Jy 132	Ap 117	130	103	27	.....	.....	92,330
19	All other industries*.....	79	3,412	63	101	213	148	2,887	.....	.....	2,877	2,264	613	.....	.....	8,384,319

\*All other industries embrace—

Agricultural implements.....	1	Butter.....	1	Cash registers.....	1	Electroplating.....	2
Artificial stone products.....	5	Buttons.....	1	Chemicals.....	1	Enameling.....	1
Awnings, tents, and sails.....	1	Canning, vegetables.....	1	Clothing, women's.....	3	Food preparations, not elsewhere specified.....	3
Bluing.....	1	Carpets, rag.....	1	Coffee, roasting and grinding.....	3	Fur goods.....	1
Bookbinding and blank-book making	1	Cars and general shop construction and repairs by electric-railroad companies.	1	Coffins, burial cases, and undertakers' goods.....	1	Furnishing goods, men's.....	1
Boxes, cigar.....	1	Cars and general shop construction and repairs by steam-railroad companies	1	Corsets.....	1	Gas, illuminating and heating.....	1
Boxes and cartons, paper.....	1	.....	.....	Electrical machinery, apparatus, and supplies.....	1	Glass.....	1
Brass products.....	1	.....	.....	.....	.....	.....	.....
Brick and tile.....	1	.....	.....	.....	.....	.....	.....

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1	ADRIAN.....	68	1,506	57	44	107	42	1,256	Ap 1,462	Jy 1,090	1,319	1,052	262	5	.....	\$5,031,755
2	ALPENA.....	54	1,636	48	37	48	9	1,494	Mh 1,599	No 1,330	1,452	1,419	32	1	.....	4,711,067
3	ANN ARBOR.....	75	1,079	74	61	76	26	842	Ap 900	De 746	764	678	84	2	.....	2,888,476
4	BATTLE CREEK.....	135	6,026	126	154	840	307	4,599	Jy 5,442	Oc 3,924	4,464	3,882	581	1	.....	19,893,219
5	BAY CITY.....	142	4,658	111	172	389	215	3,771	My 3,975	Ja 3,519	3,712	3,302	380	20	1	10,617,062
6	BENTON HARBOR.....	62	1,709	62	69	217	76	1,285	Au 1,434	Ja 1,076	1,442	1,232	210	.....	.....	3,932,039
7	ESCANABA.....	45	921	55	37	39	13	777	My 876	No 594	782	619	160	3	.....	1,354,211
8	FLINT.....	94	9,963	85	171	737	248	8,722	Se 10,308	My 7,095	8,719	8,346	366	7	.....	27,151,086
9	HANCOCK.....	21	199	27	10	15	5	142	Ja 145	Se 140	143	130	11	1	.....	419,809
10	HOLLAND.....	61	2,716	241	79	163	68	2,165	Au 2,296	Ap 1,986	2,347	2,035	293	13	6	7,744,162
11	IRONWOOD.....	24	553	21	5	14	2	516	Fe 624	No 385	457	452	5	.....	.....	1,458,443
12	ISHPEMING.....	19	117	22	6	9	1	79	Fe 93	Au 73	79	75	3	1	.....	188,930
13	JACKSON.....	147	5,846	112	219	412	197	4,906	My 5,479	De 4,542	4,807	3,938	849	5	15	14,055,794
14	KALAMAZOO.....	213	6,780	157	279	560	259	5,525	Mh 5,943	No 5,066	5,400	4,157	1,205	23	15	18,528,553
15	LANSING.....	180	7,201	161	214	402	193	6,231	Se 6,572	Ja 5,703	6,202	5,875	326	1	.....	23,174,393
16	MANISTEE.....	47	2,112	47	68	102	42	1,853	Ja 2,073	De 1,484	1,742	1,383	343	14	2	5,345,971
17	MARQUETTE.....	34	704	27	27	53	8	589	Jy 680	De 482	607	590	14	3	.....	1,683,282
18	MENOMINEE.....	52	2,243	38	64	95	58	1,988	Fe 2,144	De 1,709	2,277	1,976	255	21	25	6,825,323
19	MUSKEGON.....	103	5,238	74	166	216	136	4,646	Je 5,188	No 4,334	4,684	3,993	645	24	22	11,329,319
20	OWOSSO.....	45	1,425	35	50	74	35	1,231	Oc 1,613	Jy 1,036	1,736	1,579	156	1	.....	4,140,992
21	PONTIAC.....	46	2,861	39	103	205	105	2,409	Ap 2,940	De 1,541	1,715	1,663	52	.....	.....	5,744,456
22	FORT HURON.....	89	1,596	73	82	95	50	1,296	Je 1,512	Fe 1,116	1,295	1,044	251	.....	.....	4,622,191
23	SAULT STE. MARIE.....	44	1,062	36	30	47	11	938	Ja 1,070	Ap 843	918	845	72	1	.....	5,791,036
24	TRAVERSE CITY.....	60	1,135	56	48	45	30	956	Oc 1,212	Mh 708	1,220	909	309	2	.....	1,986,358

¹ Owned power only.

² Includes rented power, other than electric.

MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.				
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.				Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$529,910	\$755,483	\$3,670,558	\$48,102	\$73,545	\$253,780	\$10,276,968	\$379,015	\$19,008,670	\$8,352,687	15,959	11,887	53	-----	4,019	1,412	1
42,988	60,928	292,222	1,375	18,824	9,298	661,922	25,405	1,299,939	612,612	445	140	-----	-----	305	235	2
8,100	20,874	90,418	-----	5,580	2,913	366,315	11,277	601,771	224,179	135	-----	-----	-----	135	-----	3
-----	-----	9,671	620	905	-----	6,889	603	29,995	22,503	62	35	-----	-----	27	-----	4
4,880	9,804	20,993	-----	2,760	1,211	113,631	2,661	169,616	53,302	39	-----	-----	-----	39	-----	5
21,336	24,773	183,383	-----	300	8,097	661,001	2,257	1,047,791	384,533	1,415	1,400	-----	-----	15	-----	6
2,500	1,404	28,728	-----	1,580	506	50,676	293	119,529	68,560	15	-----	15	-----	-----	-----	7
12,450	7,644	64,513	-----	-----	1,346	88,882	5,515	216,174	121,777	67	-----	-----	-----	67	-----	8
7,150	6,070	16,514	-----	2,400	3,335	587,967	7,408	661,934	66,559	699	375	-----	-----	324	8	9
102,772	169,189	500,572	36,183	1,080	25,367	800,814	36,844	2,049,102	1,211,444	2,015	950	-----	-----	1,065	71	10
27,584	40,355	255,301	-----	480	12,132	295,703	15,769	819,700	508,328	926	900	6	-----	20	-----	11
17,879	10,729	71,051	-----	2,000	91,601	112,107	13,037	499,306	374,162	808	732	-----	-----	76	50	12
22,503	27,607	366,741	-----	1,800	18,939	1,859,421	8,687	2,502,833	634,725	4,162	4,152	-----	-----	10	685	13
1,065	885	27,619	-----	144	545	35,353	1,571	86,016	49,092	107	25	21	-----	61	-----	14
3,900	5,215	5,031	-----	352	508	36,549	287	60,831	23,995	28	10	-----	-----	18	-----	15
-----	3,905	37,614	3,339	4,518	709	44,469	1,606	127,765	81,690	60	-----	-----	-----	60	-----	16
37,260	41,800	82,736	2,637	10,734	2,536	155,860	5,000	414,333	253,473	256	150	-----	-----	106	63	17
7,334	3,272	66,017	-----	1,913	17,654	95,461	575	237,137	141,101	1	-----	-----	-----	1	-----	18
209,609	320,429	1,550,934	3,948	19,735	56,625	4,303,926	240,230	8,064,808	3,520,652	4,719	3,018	11	-----	1,690	300	19

Glass, cutting, staining, and ornamenting.....	1	Matches.....	1	Rules, ivory and wood.....	1	Slaughtering and meat packing.....	2
Graphite, ground and refined.....	1	Mattresses and spring beds.....	3	Saddlery and harness.....	3	Soap.....	1
Hand stamps.....	1	Mineral and soda waters.....	3	Salt.....	1	Tools, not elsewhere specified.....	2
Hosiery and knit goods.....	1	Mirrors, framed and unframed.....	1	Sausage.....	1	Trunks and valises.....	1
Ice, manufactured.....	1	Musical instruments and materials, not specified.....	1	Saws.....	1	Umbrellas and canes.....	1
Jewelry.....	1	Musical instruments, piano materials.....	1	Shipbuilding, wooden, including boat building.....	1	Vinegar.....	1
Leather, tanned, curried, and finished.....	2	Optical goods.....	1	Shirts.....	1	Window shades and fixtures.....	1
Lime.....	1	Roofing materials.....	1	Show cases.....	1	Wood, turned and carved.....	1

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

\$86,296	\$152,678	\$697,635	\$11,264	\$16,588	\$37,931	\$3,709,400	\$73,905	\$5,442,338	\$1,658,973	2,840	1,803	42	-----	995	409	1
75,961	65,541	895,042	13,610	4,850	80,576	2,025,690	372,143	4,101,935	1,704,102	11,537	8,265	285	2,100	887	4,745	2
92,008	53,310	516,276	27,440	12,015	28,850	1,192,027	109,536	2,603,379	1,301,816	2,376	1,096	73	-----	1,207	5	3
502,763	1,152,737	3,190,521	34,556	38,992	208,046	7,679,922	478,278	23,248,420	15,090,220	17,049	8,361	39	473	8,176	6,066	4
364,963	353,980	2,129,272	89,325	17,679	207,376	6,189,234	214,171	11,119,286	4,715,881	15,911	12,927	35	-----	2,949	2,961	5
132,069	271,209	722,606	57,999	13,618	33,428	1,085,747	124,292	3,021,552	1,811,513	2,245	1,185	-----	-----	1,060	102	6
88,899	32,542	468,833	571	8,298	38,257	603,860	31,837	1,506,526	870,829	2,591	2,180	103	-----	308	45	7
507,560	1,002,475	7,234,980	200	497,817	846,362	33,832,845	500,129	53,375,039	19,042,065	10,576	1,813	57	100	8,606	463	8
14,910	13,410	94,172	-----	3,817	15,875	182,343	7,346	402,980	213,291	273	106	-----	-----	167	-----	9
184,131	231,756	1,162,387	13,705	3,764	53,243	5,723,769	118,905	8,683,835	2,841,161	3,696	2,658	27	-----	1,011	620	10
9,388	9,260	305,140	12,134	2,632	19,850	408,512	5,586	793,247	379,149	641	481	30	-----	130	45	11
10,276	8,480	46,191	155	2,297	2,998	131,433	4,495	228,643	92,715	230	110	-----	-----	120	-----	12
461,661	617,741	3,263,323	67,810	64,048	142,194	9,153,022	376,257	16,809,846	7,280,567	9,740	3,520	497	2	5,721	1,707	13
649,293	794,926	3,284,360	59,107	54,103	206,480	10,305,501	641,715	20,214,314	9,267,098	19,548	15,754	213	-----	3,681	3,548	14
463,598	560,864	4,373,265	51,063	104,536	214,425	13,536,674	350,279	26,984,496	13,097,543	12,614	3,515	280	205	8,554	350	15
123,237	100,232	967,573	327,013	2,832	78,886	1,915,968	88,106	4,136,210	2,132,136	7,548	7,043	304	-----	201	662	16
56,130	55,113	378,220	22,475	6,730	38,950	645,652	32,604	1,394,587	716,331	2,156	929	2	3	1,222	-----	17
147,056	144,452	999,510	106,600	6,358	147,829	2,553,532	101,975	4,999,684	2,344,377	6,901	4,141	22	1,020	1,718	861	18
338,567	330,564	2,640,992	-----	13,858	179,127	4,975,072	342,140	11,147,605	5,830,393	12,499	5,605	771	35	6,088	543	19
96,509	109,466	724,049	2,126	3,536	47,512	1,753,956	97,045	3,468,534	1,617,533	4,266	3,477	15	-----	774	654	20
208,182	323,622	2,009,654	1,348	102,292	96,659	10,321,576	127,814	15,102,453	4,653,063	3,111	1,184	30	80	1,817	180	21
119,206	112,892	734,916	45,481	16,414	94,534	2,094,347	132,399	4,090,323	1,863,577	4,400	2,540	540	-----	1,320	68	22
100,208	62,922	620,043	2,513	6,515	58,052	2,063,659	288,040	3,821,464	1,469,765	2,326	692	99	-----	1,535	-----	23
77,175	70,396	499,453	81,100	6,021	36,853	1,056,772	30,061	2,251,484	1,164,651	4,553	3,507	-----	202	844	272	24

\* Same number reported for one or more other months.

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES: 1914

MINNESOTA

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

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## EXPLANATION OF TERMS.

**Scope of census.**—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

**Period covered.**—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

As a rule, the same designation is used for the industry wherever it appears, although all of the products indicated by this designation were not manufactured in the state or city for which these statistics are presented. In some instances the wording is changed so as to more correctly describe the products represented. For a number of industries subclasses are shown which indicate more definitely the kind of products.

**Selected industries.**—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

**Comparisons with previous censuses.**—Owing to changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. At the census of 1909 the figures for kindred industries were combined. This practice, as a rule, has been followed in compiling the statistics of 1914 when placed in comparison with those for 1909 and prior years. The comparative summary for 1914, 1909, and 1904, therefore, does not show separately all the industries given for 1914 in the detailed statement for the state.

**Influence of increased prices.**—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

**Persons engaged in the industry.**—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined for any state, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation. This total, however, is shown for the different cities, because the limited area and greater regularity of employment largely overcame the objection incident to its publication for the separate states or the United States.

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added to give the average distribution for each state as a whole and for the entire country.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work in any industry if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Rent and taxes.**—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was therefore given.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

**Primary horsepower.**—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

# MINNESOTA.

By MARTHA W. WILLIAMS and EDITH EATON.

## GENERAL STATISTICS.

**General character of the state.**—Minnesota was admitted to the Union as a state in 1858. Its gross area is 84,682 square miles, of which 80,858 represent land surface. In 1914 there were in the state 2,455 square miles in national forests, 1,691 square miles in unappropriated and unreserved public lands of the United States, and 897 square miles in Indian reservations. The inhabitants of the state in 1900 numbered 1,751,394 and in 1910, 2,075,708, and the estimated population in 1914 was 2,213,919. Minnesota ranked eleventh in area and nineteenth in population among the states in 1910. In density of population it ranked twenty-ninth in that year, with 25.7 inhabitants per square mile.

The urban population in 1910—that is, the population residing in cities and towns of 2,500 inhabitants or more—was 850,294, or 41 per cent of the total, as against 34.1 in 1900. In 1914 there were nine cities in the state estimated to have more than 10,000 inhabitants, namely, Duluth, Hibbing, Mankato, Minneapolis, St. Cloud, St. Paul, Stillwater, Virginia, and Winona. The aggregate population of these nine cities formed 33.8 per cent of the estimated total population of Minnesota in that year. Statistics for Virginia can not be shown separately without disclosing the operations of individual establishments.

Minnesota has a great diversity of natural resources. Its iron ore deposits are the richest in the country, the production of 1914 amounting to 21,946,901 long tons, or 53 per cent of the total mined in the United States. The iron mines do not contribute directly to the state's

manufactures, because the ore is shipped to blast furnaces in other states. The wheat fields and the forests, however, furnish the raw materials for two of the most important industries. In 1909 the total value of farm crops was \$193,451,474, of which amount, \$56,007,435 was contributed by wheat, \$34,023,389 by oats, \$30,510,145 by corn, and \$17,213,817 by barley. In that year Minnesota ranked first in the production of barley and third in that of wheat and oats. In 1914 the amount of lumber sawed and otherwise put through manufacturing processes was valued at \$44,675,000. The transportation facilities, both rail and water, are excellent. The steam-railway mileage in 1914 was 9,040; and the electric-railway mileage in 1912 (the latest year for which figures are available) was 522. In addition, the state has several ports of entry on Lake Superior, and there are on or within its borders seven navigable rivers.

**Importance and growth of manufactures.**—In 1914, as in 1909, Minnesota ranked thirteenth among the states in the value of its manufactures, while in the average number of wage earners engaged in such industries, it held eighteenth place. The state contributed 2 per cent of the total value of products manufactured in the United States in 1914—practically the same proportion as in 1909 and 1904.

Table 1 summarizes the more important data relative to all classes of manufactures combined in the state of Minnesota, for the censuses of 1914, 1909, 1904, and 1899, and gives the percentages of increase from census to census.

	MANUFACTURING INDUSTRIES.				PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	5,974	5,561	4,756	4,096	7.4	16.9	16.1
Persons engaged.....	115,690	104,406	83,301	( <sup>2</sup> )	10.8	25.3	.....
Proprietors and firm members.....	5,233	5,376	4,524	( <sup>2</sup> )	-2.7	18.8	.....
Salaries and wages.....	17,623	14,263	9,141	6,625	23.6	56.0	38.0
Wage earners (average number).....	92,834	84,767	69,636	64,557	9.5	21.7	7.9
Primary horsepower.....	358,737	297,670	220,934	180,124	20.5	34.7	22.7
Capital.....	\$354,434,177	\$275,416,029	\$184,903,271	\$133,076,669	28.7	49.0	38.9
Salaries and wages.....	80,591,183	62,922,303	44,875,985	35,093,419	28.1	40.2	27.9
Salaries.....	22,084,170	15,451,500	9,032,840	6,064,229	42.9	71.1	49.0
Wages.....	58,507,013	47,470,803	35,843,145	29,029,190	23.2	32.4	23.5
Paid for contract work.....	2,600,106	2,483,017	4,378,700	( <sup>2</sup> )	4.7	-43.3	.....
Rent and taxes (including internal revenue).....	7,381,132	4,979,543	2,138,692	( <sup>2</sup> )	48.2	.....	.....
Cost of materials.....	336,849,214	281,622,287	210,553,949	150,299,277	19.6	33.8	40.1
Value of products.....	493,354,136	409,419,621	307,858,073	223,692,922	20.5	33.0	37.6
Value added by manufacture (value of products less cost of materials).....	156,504,922	127,797,334	97,304,124	73,393,645	22.5	31.3	32.6

<sup>1</sup> A minus sign (—) denotes decrease.

<sup>2</sup> Figures not available.

<sup>3</sup> Exclusive of internal revenue.

The general increase in the manufacturing activities of the state was greater during the years 1904 to 1909 than for the other five-year periods shown in the

table. The decrease of 43.3 per cent, shown for contract work, is no indication of a depression in any industry of the state, because the expenditure for



such work depends upon the methods followed in carrying on the various industries, and not on the magnitude of the operations. The decrease of 2.7 per cent in the number of proprietors and firm members was doubtless in some degree due to the changes in character of ownership. During the period between the censuses the form of ownership of some establishments changed from "individual" or "firm" to "corporation," and proprietors and firm members reported at one census were classed as officials of cor-

porations at a later date. The value added by manufacture, although greater in amount at each of the successive censuses for which figures are given in the table, shows a smaller proportional increase—32.6 per cent from 1899 to 1904, 31.3 per cent from 1904 to 1909, and 22.5 per cent from 1909 to 1914.

Table 2 shows the relative importance of the leading manufacturing industries in 1914, and gives percentages of increase for the three five-year periods from 1899 to 1914.

Table 2

INDUSTRY.	CENSUS OF 1914.							PER CENT OF INCREASE. <sup>1</sup>								
	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
All industries.....	5,974	92,834	100.0	\$493,354,136	100.0	\$156,504,922	100.0	9.5	21.7	7.9	20.5	33.0	37.6	22.5	31.3	32.6
Flour-mill and gristmill products.....	236	4,564	4.9	148,243,708	30.0	20,929,137	13.4	5.0	-3.0	11.0	6.5	14.0	47.1	40.3	14.8	41.8
Slaughtering and meat packing.....	29	2,587	2.8	47,710,059	9.7	5,973,875	3.8	34.7	39.6	106.0	85.3	46.4	125.2	66.0	44.8	151.5
Lumber and timber products.....	453	20,947	22.6	44,674,948	9.1	21,848,154	14.0	1.2	1.1	-8.6	5.5	0.8	-10.7	1.7	-11.3	4.2
Butter and cheese.....	807	1,458	1.6	33,746,396	6.8	2,977,283	1.9	23.1	13.7	40.7	33.5	96.5	51.8	15.4	49.0	34.1
Foundry and machine-shops products.....	409	7,051	7.6	21,405,023	4.3	11,470,566	7.3	17.5	49.2	7.3	37.1	64.1	27.8	36.2	65.4	26.3
Printing and publishing.....	994	6,134	6.6	20,186,594	4.1	14,626,901	9.3	8.7	22.3	11.9	26.3	38.2	41.1	23.1	35.4	38.9
Cars and general shop construction and repairs by steam-railroad companies.....	38	10,551	11.4	14,594,018	3.0	8,266,790	5.3	28.2	42.7	22.7	15.5	71.2	16.8	34.7	67.5	24.6
Liquors, malt.....	65	2,052	2.2	14,266,296	2.9	10,963,095	7.0	24.1	59.7	20.9	35.0	71.1	38.6	33.3	85.3	23.7
Oil, linseed.....	6	400	0.4	12,356,906	2.5	1,077,899	0.7	7.0	5.9	127.7	12.0	57.3	114.4	-20.3	45.5	188.5
Bread and other bakery products.....	443	2,169	2.3	8,724,162	1.8	3,929,774	2.5	27.9	25.9	38.6	28.6	46.9	67.4	31.8	51.9	59.8
Boots and shoes.....	14	2,012	2.2	5,918,031	1.2	1,937,639	1.2	-24.5	55.4	-15.4	-21.8	81.5	15.3	-26.4	71.2	24.2
Malt.....	9	163	0.2	5,636,696	1.1	1,173,479	0.8	21.7	100.0	146.4	30.6	260.2	395.0	49.7	190.5	300.3
Clothing, men's, including shirts.....	45	2,408	2.7	5,616,322	1.1	1,975,894	1.3	14.5	44.1	-20.5	25.9	67.9	10.1	20.1	55.8	12.2
Butter and wood pulp.....	8	1,345	1.4	5,572,537	1.1	2,327,583	1.5	121.6	53.3	.....	133.7	108.1	.....	145.8	101.9	.....
Food preparations, not elsewhere specified.....	27	426	0.5	4,978,745	1.0	1,929,386	1.2	5.2	49.4	36.9	18.4	164.4	127.0	39.6	107.7	212.7
Patent medicines and compounds and druggists' preparations.....	99	613	0.7	4,879,026	1.0	2,537,951	1.6	29.1	38.1	83.0	10.6	40.7	236.5	-6.8	51.6	195.9
Coffee, roasting and grinding.....	11	313	0.3	4,728,582	1.0	909,889	0.6	-8.5	81.9	-73.0	57.8	65.0	45.3	41.3	45.4	16.0
Hosiery and knit goods.....	13	2,088	2.2	4,665,325	0.9	2,138,906	1.4	98.5	71.1	109.9	108.0	86.4	193.4	84.9	100.5	170.9
Furniture and refrigerators.....	61	1,739	1.9	4,215,497	0.9	2,457,858	1.6	2.6	9.3	25.3	12.1	38.4	31.7	32.2	15.5	61.4
Fur goods.....	36	838	0.9	4,207,468	0.9	1,530,828	1.0	-20.6	-14.6	63.5	11.4	11.7	70.8	-2.1	14.3	60.3
Gas, illuminating and heating.....	47	1,038	1.1	4,158,606	0.8	2,477,336	1.6	22.4	47.5	53.3	44.7	41.4	88.9	20.6	45.8	82.5
Agricultural implements.....	17	872	0.9	3,812,728	0.8	2,339,218	1.5	-14.0	-13.8	26.7	26.5	4.5	63.5	21.6	7.2	71.8
Copper, tin, and sheet-iron products.....	143	1,087	1.2	3,398,243	0.7	1,733,535	1.1	0.6	22.8	17.0	22.9	49.4	14.5	22.2	41.5	18.2
Marble and stone work.....	127	1,579	1.7	3,121,447	0.6	1,910,314	1.2	-9.2	110.2	-32.8	5.3	138.2	13.0	-0.5	112.4	7.1
Confectionery.....	78	843	0.9	3,039,435	0.6	1,310,072	0.8	17.9	10.7	64.4	29.5	40.1	67.2	34.2	29.3	75.2
Tobacco manufactures.....	324	1,251	1.4	2,872,493	0.6	1,744,024	1.1	-21.8	-9.4	14.0	-14.7	5.0	29.7	-17.3	0.1	38.8
Leather goods.....	95	750	0.8	2,805,751	0.6	1,157,578	0.7	-13.8	29.5	30.0	-0.5	44.6	37.8	-1.5	35.8	62.6
Brick, tile, pottery, and other clay products.....	65	1,446	1.6	2,582,846	0.5	1,715,098	1.1	-0.3	11.0	2.4	16.3	24.1	47.0	6.2	23.7	48.6
Copperage and wooden goods, not elsewhere specified.....	28	787	0.8	2,226,774	0.5	950,239	0.6	-7.4	14.8	2.5	1.8	15.0	11.4	24.3	7.6	12.0
Carriages and wagons and materials.....	120	854	0.9	2,205,608	0.4	1,175,642	0.8	-1.6	-6.0	-20.9	1.4	16.4	-11.4	-1.4	19.1	-12.5
Paint and varnish.....	15	144	0.2	1,683,962	0.3	622,613	0.4	-12.2	110.2	50.0	13.1	110.0	98.0	3.8	135.3	71.1
Artificial stone products.....	191	738	0.8	1,617,749	0.3	943,072	0.6	13.0	146.4	.....	48.4	183.9	.....	32.6	187.9	.....
Mattresses and spring beds.....	13	440	0.5	1,594,845	0.3	688,527	0.4	-2.9	135.9	-8.6	5.8	159.6	16.7	-1.3	145.8	24.6
Boxes and cartons, paper.....	13	650	0.7	1,321,846	0.3	771,968	0.5	9.2	85.9	36.8	29.2	124.3	132.7	42.4	132.6	82.0
Woolen goods.....	16	448	0.5	1,297,654	0.3	448,143	0.3	61.7	-19.2	14.3	85.7	-11.6	59.2	65.9	-17.7	45.8
Canning and preserving.....	35	436	0.5	1,284,340	0.3	478,288	0.3	5.1	57.8	115.6	-4.4	72.6	133.6	6.7	30.6	183.5
Mineral and soda waters.....	128	309	0.3	1,266,028	0.3	739,157	0.5	25.6	30.9	9.3	45.8	51.7	19.0	34.4	39.7	26.2
Automobiles, including bodies and parts.....	24	486	0.5	1,230,338	0.2	595,348	0.4	273.8	.....	.....	186.7	.....	.....	238.1	.....	.....
Millinery and lace goods.....	9	308	0.3	944,666	0.2	297,070	0.2	-38.2	.....	.....	1.5	.....	.....	-10.8	.....	.....
Cars and general shop construction and repairs by electric-railroad companies.....	8	435	0.5	862,575	0.2	495,761	0.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steam packing.....	5	174	0.2	752,521	0.2	398,874	0.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electrical machinery, apparatus, and supplies.....	17	236	0.3	748,948	0.2	401,107	0.3	26.2	10.0	97.7	42.4	24.1	86.0	31.0	29.1	123.6
Soap.....	6	46	(?)	614,028	0.1	151,303	0.1	.....	.....	.....	24.0	41.8	.....	-7.4	41.7	.....
Photo-engraving.....	11	234	0.3	605,781	0.1	515,027	0.3	39.3	64.7	92.4	73.1	141.4	107.1	65.6	154.9	103.3
Signs and advertising novelties.....	28	238	0.3	592,525	0.1	305,583	0.2	105.2	.....	.....	89.4	.....	.....	41.0	.....	.....
Paving materials.....	7	184	0.2	550,676	0.1	283,421	0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnishing goods, men's.....	6	142	0.2	456,263	0.1	129,532	0.1	-22.0	243.4	.....	8.6	211.1	.....	-23.7	275.6	.....
Awnings, tents, and sails.....	17	110	0.1	444,251	0.1	193,253	0.1	(?)	10.0	-4.8	12.4	39.1	29.7	14.2	39.7	7.1
Brass, bronze, and copper products.....	9	99	0.1	358,643	0.1	116,675	0.1	.....	.....	.....	158.3	.....	.....	143.8	.....	.....
Lime.....	5	223	0.2	342,490	0.1	203,513	0.1	9.9	58.6	.....	10.0	7.6	.....	20.8	4.3	.....

<sup>1</sup> Percentages are based on figures in Table 34; a minus sign (-) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

<sup>2</sup> Less than one-tenth of 1 per cent.

<sup>3</sup> Same number reported in both years.

Table 2—Continued.

Table 2—Continued.	CENSUS OF 1914.							PER CENT OF INCREASE. <sup>1</sup>									
	INDUSTRY.	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
			Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
Gas and electric fixtures.....	15	111	0.1	341,289	0.1	176,655	0.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Shipbuilding, including boat building.	30	125	0.1	317,111	0.1	159,617	0.1	-40.2	-6.7	63.5	-15.9	10.2	52.7	-26.9	-8.8	72.7	-----
Stoves and furnaces, not including gas and oil stoves.....	9	169	0.2	316,335	0.1	203,423	0.1	-8.6	69.7	-----	-47.3	97.4	-----	-42.8	75.7	-----	-----
Musical instruments, pianos and organs.....	4	108	0.1	315,246	0.1	159,222	0.1	-24.5	62.2	-34.3	6.8	434.5	3.8	-5.4	522.2	( <sup>2</sup> )	-----
Jewelry.....	25	154	0.2	307,833	0.1	204,736	0.1	29.4	58.7	257.1	20.8	68.9	420.7	22.0	71.4	716.7	-----
Glass, cutting, staining, and ornamenting.....	15	153	0.2	283,075	0.1	188,063	0.1	16.8	32.3	167.6	19.4	73.0	107.6	21.3	74.2	111.9	-----
Brooms.....	19	99	0.1	265,993	0.1	129,042	0.1	-----	-----	-----	-1.5	-----	-----	1.5	-----	-----	-----
Hats and caps, other than felt, straw, and wool.....	9	127	0.1	240,849	( <sup>3</sup> )	80,492	0.1	119.0	-23.7	-----	113.3	-1.7	-----	30.6	6.9	-----	-----
Paper goods, not elsewhere specified.....	6	112	0.1	240,397	( <sup>3</sup> )	135,884	0.1	28.7	262.5	-----	-4.8	460.0	-----	23.9	319.2	-----	-----
Optical goods.....	8	54	0.1	218,776	( <sup>3</sup> )	143,826	0.1	-----	-----	-----	167.1	3.8	-35.8	136.1	29.8	-50.0	-----
Dairymen's, poultrymen's, and apiarists' supplies.....	7	61	0.1	218,512	( <sup>3</sup> )	127,646	0.1	-----	-----	-----	87.2	-----	-----	85.5	-----	-----	-----
Clothing, women's.....	8	94	0.1	209,009	( <sup>3</sup> )	115,589	0.1	-----	-----	-----	-31.5	-3.8	-25.8	-40.5	10.8	-27.0	-----
Grease and tallow.....	11	39	( <sup>3</sup> )	207,993	( <sup>3</sup> )	78,137	( <sup>3</sup> )	-----	-40.8	-33.5	16.8	24.4	-----	5.8	50.8	-----	-----
All other industries.....	339	4,908	5.3	24,751,322	5.0	8,368,412	5.3	-11.7	24.5	16.4	12.4	37.1	33.9	3.0	48.0	34.8	-----

<sup>1</sup> Percentages are based on figures in Table 34; a minus sign (—) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

<sup>2</sup> Same number reported in both years.

<sup>3</sup> Less than one-tenth of 1 per cent.

Separate statistics are presented for 63 industries or industry groups, for each of which products valued at more than \$200,000 were reported in 1914. These industries include 9 with products exceeding \$10,000,000 in value, 5 with products between \$5,000,000 and \$10,000,000 in value, 24 between \$1,000,000 and \$5,000,000, and 25 with products valued at less than \$1,000,000. Among those included under the head of "all other industries," the statistics for which can not be shown separately without the possibility of disclosing the operations of individual establishments, are a number which have products exceeding in value some for which figures are shown in the table, the principal ones being bags, other than paper; belting, leather; iron and steel, blast furnaces; leather, tanned, curried, and finished; mats and matting; roofing materials; and stationery goods, not elsewhere specified. The manufacture of bags, other than paper, in which Minnesota ranked fourth among the states, is the most important of these industries.

The rank of some of the industries shown separately in the table changes to a marked degree when determined by average number of wage earners and value added by manufacture instead of by value of products. The flour-mill and gristmill industry, which ranked first in value of products, was fifth in number of wage earners and second in value added by manufacture. Lumber, third in value of products, was first in wage earners and value added by manufacture. Butter and cheese and slaughtering and meat packing are also of less importance when measured by the number of persons employed or the value added by the processes to which the raw material is subjected.

In rank according to the value of products there were a number of changes in 1914 as compared with

1909. Of the more important industries shown in the table, flour-mill and gristmill products, butter and cheese, and cars and general shop construction and repairs by steam railroad companies held the same rank in value of products at both censuses. Slaughtering and meat packing and the lumber industry exchanged places, while foundry and machine-shop products and printing and publishing reversed the order of their importance. Food preparations held the same rank at both censuses. For the remainder of these industries slight changes are noticeable from the earlier census to the later.

*Flour-mill and gristmill products.*—Minnesota is the leading state of the Union in this industry, contributing 30 per cent of the total value of products of the state and 16.9 per cent of the total value of products reported in 1914 for the industry in the entire United States. During the decade the value of the output increased 21.5 per cent, but there has been a steady decline in the percentage of increase shown from census to census. The statistics for 1914 include all mills grinding wheat, corn, rye, and other cereals, as well as those making hominy and grits, except custom mills grinding for toll or local consumption. Measured by value of products, the industry ranks first in the state. The growth of the industry is further evidenced by the increase in the average number of wage earners from 1909 to 1914, notwithstanding a decrease in the number of establishments. The decrease of 36 in the number of mills reported for 1914 as compared with 1909 (see Table 34) may be due in part to the fact that some mills engaged in merchant grinding during 1909 reported only custom work in 1914 and were not enumerated. It is also evident that some of the small mills went out of business during the period between the censuses.

*Slaughtering and meat packing.*—This classification includes wholesale slaughtering and meat-packing establishments and those engaged primarily in the manufacture of sausage. There has been a marked growth in the industry since 1899. In that year the value of products was \$7,810,555 and in 1914 \$47,710,059, an increase of \$39,899,504, or 510.8 per cent. In 1914 the industry ranked second in the state in value of products, having advanced from the third place which it held at the three previous censuses.

*Lumber and timber products.*—This industry embraces not only logging operations, sawmills, and planing mills, but also wooden-box factories, the manufacture of window and door screens and weather strips, and the cutting of logs for wood-pulp manufacture, etc. In capital invested, number of wage earners, amount paid in wages, and value added by manufacture it leads all others in the state. In value of products it was third in importance in the state in 1914 and second in 1909. The increase in this item from 1909 to 1914 was \$2,322,441, or 5.5 per cent.

*Butter and cheese.*—The establishments included under this classification are engaged almost wholly in the manufacture of butter, as very little cheese was manufactured in 1914. The industry developed rapidly during the decade 1904–1914, the value of products increasing from \$12,871,129 to \$33,746,396, a gain of 162.2 per cent. For the five-year period 1909–1914 the value of products increased \$8,458,934, or 33.5 per cent. In the production of butter alone Minnesota ranks second among the states of the Union, but in the combined industries, butter, cheese, and condensed milk, it holds third place. In 1914 there was one establishment in the state manufacturing condensed milk.

*Foundry and machine-shop products.*—Not only foundries and machine shops, but also such allied industries as the manufacture of engines, gas meters, hardware, plumbers' supplies, steam fittings, structural ironwork, and automobile repairing are included in this classification. A number of the most important establishments were engaged in the manufacture of structural steel, ornamental and architectural ironwork, and various classes of engines and castings. The large increase in number of establishments is due to the inclusion in 1914 of 150 shops where the repair work on automobiles was of the character of machine-shop work. The value of products more than doubled during the decade 1904–1914 and for the five-year period 1909–1914 increased \$5,796,307, or 37.1 per cent.

*Cars and general shop construction and repairs by steam-railroad companies.*—The industry represents the work done in the steam-railroad repair shops but does not include the minor repairs made in round-houses. The operations consist almost exclusively of

repairs to the rolling stock and equipment. The railroad repair shops gave employment in 1914 to more wage earners—10,551—and distributed a greater amount for wages—\$7,544,270—than any other industry in the state, with the exception of lumber.

*Liquors, malt.*—This industry more than doubled its products during the decade. There was no increase in the number of breweries from 1909 to 1914, but the average number of wage earners increased 24.1 per cent, and the value of products 35 per cent.

*Oil, linseed.*—Flax, which is one of the principal agricultural products of Minnesota and the Dakotas, furnishes the raw material for the manufacture of linseed oil. Recent improvements in the methods of agriculture and the rotation of crops have made it highly profitable to raise flax, thereby stimulating the manufacture of linseed oil. In 1889 there were only three establishments located in the state, and the production of oil in that year was valued at \$1,548,000. During the decade following the value of the output increased \$1,725,000, or 111.4 per cent, while from 1899 to 1909 it advanced from \$3,273,000 to \$11,037,000, a gain of 237.2 per cent. In 1914 Minnesota ranked second only to New York in the production of linseed oil. Of the total value of the output in the United States, this state contributed more than one-fourth. During the five years from 1909 to 1914 the value of products advanced \$1,319,990, or 12 per cent.

**Persons engaged in manufacturing industries.**—Table 3 shows, for 1909 and 1914, the number of persons engaged in manufactures, distributed by sex; the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

CLASS.	Census year.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.				
		Total.	Male.	Female.	Per cent of total.	
					Male.	Female.
All classes.....	1914 1909	115,690 104,406	100,158 90,058	15,532 14,348	86.6 86.3	13.4 13.7
Proprietors and officials.....	1914 1909	9,542 9,142	9,300 8,908	242 234	97.5 97.4	2.5 2.6
Proprietors and firm members..	1914 1909	5,233 5,376	5,071 5,206	162 170	96.9 96.8	3.1 3.2
Salaried officers of corporations..	1914 1909	1,731 1,566	1,681 1,560	50 36	97.1 97.7	2.9 2.3
Superintendents and managers..	1914 1909	2,578 2,170	2,548 2,142	30 28	98.8 98.7	1.2 1.3
Clerks and other subordinate salaried employees.	1914 1909	13,314 10,497	10,163 7,891	3,151 2,606	76.3 75.2	23.7 24.8
Wage earners (average number)....	1914 1909	92,834 84,767	80,695 73,259	12,139 11,508	86.9 86.4	13.1 13.6
16 years of age and over.....	1914 1909	92,560 84,461	80,509 73,038	12,051 11,423	87.0 86.5	13.0 13.5
Under 16 years of age.....	1914 1909	274 306	186 221	88 85	67.9 72.2	32.1 27.8

Of the 115,690 persons engaged in the manufactures of the State during 1914, more than four-fifths were wage earners. The sex distribution of this class was 86.9 per cent male and 13.1 per cent female. Clerks and other salaried employees, numbering 13,314, showed a larger proportion of females than any of the other classes, but the relative importance of this class was slightly less than in 1909. Of the 9,542

proprietors and officials, males constituted 97.5 per cent. Figures for individual industries will be found in Table 35.

Table 4 gives, for the several classes of persons engaged in manufactures, the percentages of increase from 1909 to 1914 and the per cent distribution at the two censuses.

Table 4

Table 4	CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
		Per cent of increase, <sup>1</sup> 1909-1914.			Per cent distribution.					
		Total.	Male.	Female.	Total.		Male.		Female.	
					1914	1909	1914	1909	1914	1909
All classes.....	10.8	11.2	8.3	100.0	100.0	100.0	100.0	100.0	100.0	
Proprietors and officials.....	4.4	4.4	3.4	8.2	8.8	9.3	9.9	1.6	1.6	
Proprietors and firm members.....	-2.7	-2.6	-4.7	4.5	5.1	5.1	5.8	1.0	1.2	
Salaried officers of corporations.....	8.5	7.8	.....	1.5	1.5	1.7	1.7	0.3	0.3	
Superintendents and managers.....	18.8	19.0	.....	2.2	2.1	2.5	2.4	0.2	0.2	
Clerks and other subordinate salaried employees.....	26.8	28.8	20.9	11.5	10.1	10.1	8.8	20.3	18.2	
Wage earners (average number).....	9.5	10.2	5.5	80.2	81.2	80.6	81.3	78.2	80.2	
16 years of age and over.....	9.6	10.2	5.5	80.0	80.9	80.4	81.1	77.6	79.6	
Under 16 years of age.....	-10.5	-15.8	.....	0.2	0.3	0.2	0.2	0.6	0.6	

<sup>1</sup> A minus (-) denotes decrease; percentages are omitted where base is less than 100.

With the exception of proprietors and firm members and wage earners under 16 years of age, there was an increase in all classes of employees engaged in the manufactures of the state. The decrease in the number of proprietors and firm members is most pronounced in the butter and cheese, flour-mill and grist-mill, and lumber industries, and is accounted for by the fact that a number of small establishments went out of business between censuses, while some controlled by individuals or partners later became incorporated companies. The decrease in the number of children employed is insignificant when considered in relation to the proportion which this class forms of the total number of wage earners, being two-tenths of 1 per cent in 1914 and three-tenths of 1 per cent in 1909. Wage earners over 16 years of age represented 80 per cent of the total number of persons engaged in manufacturing industries in the state in 1914 and 80.9 per cent in 1909.

In order to compare the distribution of persons engaged in manufactures in 1914 with that shown at the census of 1904 it is necessary to use the classification employed at the earlier census. (See "Explanation of terms.")

Table 5 makes this comparison according to occupational status.

The table shows that during the decade ending with 1914, there were slight decreases in the proportions which proprietors and firm members and wage earners form of the total number of persons engaged in the manufactures of the state and a corresponding increase

in the proportion of salaried employees. The decrease in proprietors and firm members shown for the five-year period 1909-1914 is explained in the analysis of Table 4.

Table 5

Class.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.							
	Number.			Per cent distribution.			Per cent of increase. <sup>1</sup>	
	1914	1909	1904	1914	1909	1904	1909-1914	1904-1909
Total.....	115,690	104,406	83,301	100.0	100.0	100.0	10.8	25.3
Proprietors and firm members.....	5,233	5,376	4,524	4.5	5.1	5.4	-2.7	18.8
Salaried employees.....	17,623	14,263	9,141	15.2	13.7	11.0	23.6	56.0
Wage earners (average).....	92,834	84,767	69,636	80.2	81.2	83.6	9.5	21.7

<sup>1</sup> A minus sign (-) denotes decrease.

The average number of wage earners employed and their per cent distribution as males 16 years of age and over, females 16 years and over, and children under 16 years is given in Table 6 for 1914, 1909, and 1904. The table also shows, for some of the important industries separately, a similar distribution of wage earners for 1914 and 1909.

For all industries combined, there was but slight fluctuation from census to census in the proportion of male and female wage earners over 16 years of age, but the proportion for children has gradually declined.

Of the 41 industries for which comparative figures are given in Table 6, 19 show an increased proportion of males and 18 an increased proportion of females, while in but 7 has there been an increase in

the proportion of children. Nine of the industries that gave employment to children in 1909 reported no employees of this class for 1914.

The industries in which women greatly predominate as wage earners are men's clothing, hosiery and knit goods, and millinery and lace goods. In the manufacture of confectionery, fur goods, patent medicines and compounds, paper boxes, food preparations, and in the roasting and grinding of coffee, although the proportion was smaller, the females also outnumbered

the males. In the preparation of food products, the compounding of patent medicines and drugs, and in the manufacture of signs and advertising novelties there were considerable increases in the proportion of female wage earners 16 years of age and over in 1914, as compared with 1909. In the canning and preserving industry children under 16 years of age formed 9.2 per cent of the total average number of wage earners in 1909, as compared with nine-tenths of 1 per cent in 1914.

Table 6

INDUSTRY.	Census year.	WAGE EARNERS.				INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Per cent of total.					Average number. <sup>1</sup>	Per cent of total.		
			16 years of age and over.		Under 16 years of age.				16 years of age and over.		Under 16 years of age.
			Male.	Female.					Male.	Female.	
All industries.....	1914	92,834	86.7	13.0	0.3	Fur goods.....	1914	838	37.7	62.3	.....
	1909	84,767	86.2	13.5	0.4		1909	1,056	42.7	57.2	0.1
	1904	69,636	87.4	12.1	0.5						
Agricultural implements.....	1914	872	100.0	.....	.....	Furniture and refrigerators.....	1914	1,739	98.8	0.9	0.3
	1909	1,014	99.8	.....	0.2		1909	1,695	98.4	0.9	0.7
Artificial stone products.....	1914	738	99.9	0.1	.....	Gas, illuminating and heating.....	1914	1,038	100.0	.....	.....
	1909	653	100.0	.....	.....		1909	848	100.0	.....	.....
Automobiles, including bodies and parts..	1914	486	99.8	0.2	.....	Hosiery and knit goods.....	1914	2,088	14.6	85.4	.....
	1909	130	95.4	4.6	.....		1909	1,052	15.6	81.7	2.7
Boots and shoes.....	1914	2,012	71.1	28.2	0.7	Leather goods.....	1914	750	80.5	5.9	13.6
	1909	2,664	63.8	35.7	0.5		1909	870	82.9	17.1	.....
Boxes and cartons, paper.....	1914	650	43.7	55.4	0.9	Lime.....	1914	223	100.0	.....	.....
	1909	595	44.4	54.8	0.8		1909	203	100.0	.....	.....
Bread and other bakery products.....	1914	2,169	72.2	27.1	0.7	Liquors, malt.....	1914	2,052	99.8	0.2	.....
	1909	1,696	70.8	28.3	0.9		1909	1,653	97.1	2.8	0.1
Brick, tile, pottery, and other clay products.	1914	1,446	100.0	.....	.....	Lumber and timber products.....	1914	20,947	99.8	0.2	0.1
	1909	1,450	99.2	0.1	0.7		1909	20,704	99.7	0.2	0.1
Butter and cheese.....	1914	1,458	97.7	2.1	0.2	Marble and stone work.....	1914	1,579	100.0	.....	.....
	1909	1,184	99.0	0.7	0.3		1909	1,738	99.9	0.1	.....
Canning and preserving.....	1914	436	61.9	37.2	0.9	Mattresses and spring beds.....	1914	440	87.3	12.7	.....
	1909	415	51.3	39.5	9.2		1909	453	85.9	14.1	.....
Carriages and wagons and materials.....	1914	854	99.4	0.6	.....	Millinery and lace goods.....	1914	308	10.1	89.9	.....
	1909	868	99.4	0.6	.....		1909	498	2.4	97.6	.....
Cars and general shop construction and repairs by steam-railroad companies.	1914	10,551	99.9	( <sup>2</sup> )	0.1	Mineral and soda waters.....	1914	309	95.5	4.5	.....
	1909	8,232	99.9	0.1	.....		1909	246	94.3	3.7	2.0
Clothing, men's, including shirts.....	1914	2,468	23.3	76.6	0.1	Oil, linseed.....	1914	400	100.0	.....	.....
	1909	2,156	10.6	89.4	.....		1909	374	100.0	.....	.....
Coffee, roasting and grinding.....	1914	313	44.4	55.6	.....	Paper and wood pulp.....	1914	1,345	97.4	2.6	.....
	1909	342	30.9	58.2	0.9		1909	607	98.4	1.6	.....
Confectionery.....	1914	843	33.3	66.5	0.2	Patent medicines and compounds and druggists' preparations.	1914	613	43.9	56.0	0.2
	1909	715	35.9	63.5	0.6		1909	475	56.0	43.4	0.6
Cooperage and wooden goods, not elsewhere specified.	1914	787	98.0	2.0	.....	Photo-engraving.....	1914	234	87.6	12.4	.....
	1909	850	98.2	1.4	0.4		1909	168	94.6	5.4	.....
Copper, tin, and sheet-iron products.....	1914	1,087	93.4	6.5	0.1	Printing and publishing.....	1914	6,134	76.3	22.5	1.2
	1909	1,081	94.4	5.6	.....		1909	5,641	73.8	25.3	0.9
Electrical machinery, apparatus, and supplies.	1914	236	94.1	5.5	0.4	Signs and advertising novelties.....	1914	238	62.2	37.8	.....
	1909	187	96.3	2.1	1.6		1909	116	94.8	5.2	.....
Flour-mill and gristmill products.....	1914	4,564	98.0	2.0	.....	Slaughtering and meat packing.....	1914	2,587	97.6	2.4	.....
	1909	4,345	98.3	1.7	.....		1909	1,921	97.5	2.2	0.3
Food preparations, not elsewhere specified	1914	426	45.1	54.7	0.2	Tobacco manufactures.....	1914	1,261	69.6	29.7	0.7
	1909	405	50.1	49.6	0.2		1909	1,613	72.5	26.5	1.0
Foundry and machine-shop products.....	1914	7,051	99.6	0.3	0.1	Woolen goods.....	1914	448	54.2	45.5	0.3
	1909	6,002	99.5	0.4	0.1		1909	277	63.1	46.2	0.7
						All other industries.....	1914	7,816	74.4	25.5	0.1
							1909	7,575	72.4	27.1	0.5

<sup>1</sup> For method of estimating the distribution, by sex and age periods, of the average number in all industries, see "Explanation of terms."

<sup>2</sup> Less than one-tenth of 1 per cent.

Table 7 shows the average number and the per cent distribution of wage earners employed in each of the eight cities having more than 10,000 inhabitants, classified according to age periods and in the case of

those 16 years of age and over, according to sex, for 1914, 1909, and 1904. Statistics for Virginia can not be shown separately without disclosing the operations of individual establishments.

Table 7

SEX AND AGE.	Cen- sus year.	AVERAGE NUMBER OF WAGE EARNERS IN—							
		Duluth.	Hibbing.	Mankato.	Minneapolis.	St. Cloud.	St. Paul.	Stillwater.	Winona.
Total.....	1914	5,538	65	755	28,295	1,429	19,483	621	2,070
	1909	6,083	.....	807	26,962	626	19,339	688	2,032
	1904	3,987	.....	724	21,671	.....	14,363	955	1,953
16 years of age and over:									
Male.....	1914	4,956	56	637	22,791	1,320	15,340	482	1,639
	1909	5,615	.....	662	22,822	595	14,553	532	1,630
	1904	3,693	.....	567	18,402	.....	10,673	905	1,727
Female.....	1914	574	9	118	5,470	108	4,106	127	422
	1909	444	.....	135	4,074	30	4,742	153	396
	1904	273	.....	102	3,202	.....	3,658	50	218
Under 16 years of age..	1914	8	.....	.....	34	1	37	12	9
	1909	24	.....	10	66	1	44	3	6
	1904	21	.....	55	67	.....	32	.....	8
Per cent of total:									
16 years of age and over—									
Male.....	1914	89.5	86.2	84.4	80.5	92.4	78.7	77.6	79.2
	1909	92.3	.....	82.0	84.6	95.0	75.3	77.3	80.2
	1904	92.6	.....	78.3	84.9	.....	74.3	94.8	88.4
Female.....	1914	10.4	13.8	15.6	19.3	7.6	21.1	20.5	20.4
	1909	7.3	.....	16.7	15.1	4.8	24.5	22.2	19.5
	1904	6.8	.....	14.1	14.8	.....	25.5	5.2	11.2
Under 16 years of age.	1914	0.1	.....	.....	0.1	0.1	0.2	1.9	0.4
	1909	0.4	.....	1.2	0.2	0.2	0.2	0.4	0.3
	1904	0.5	.....	7.6	0.3	.....	0.2	.....	0.4

<sup>1</sup> Figures do not agree with those published because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

Table 8 gives percentages of increase from census to census, based on figures in Table 7.

Table 8

CITY.	PER CENT OF INCREASE IN AVERAGE NUMBER OF WAGE EARNERS. <sup>1</sup>				
	Period.	Total.	16 years of age and over.		Under 16 years of age.
			Male.	Female.	
Duluth.....	1904-1914	38.9	34.2	110.3	.....
	1909-1914	-9.0	-11.7	29.3	.....
	1904-1909	52.6	52.0	62.6	.....
Mankato.....	1904-1914	4.3	12.3	15.7	.....
	1909-1914	-6.4	-3.8	-12.6	.....
	1904-1909	11.5	16.8	32.4	.....
Minneapolis.....	1904-1914	30.6	23.9	70.8	.....
	1909-1914	4.9	-0.1	34.3	.....
	1904-1909	24.4	24.0	27.2	.....
St. Cloud.....	1904-1914	.....	.....	.....	.....
	1909-1914	128.3	121.8	.....	.....
	1904-1909	.....	.....	.....	.....
St. Paul.....	1904-1914	35.6	43.7	12.2	.....
	1909-1914	0.7	5.4	-13.4	.....
	1904-1909	34.6	36.4	29.6	.....
Stillwater.....	1904-1914	-35.0	-46.7	.....	.....
	1909-1914	-9.7	-9.4	-17.0	.....
	1904-1909	-28.0	-41.2	.....	.....
Winona.....	1904-1914	6.0	-5.1	93.6	.....
	1909-1914	1.9	0.6	6.6	.....
	1904-1909	4.0	-5.6	81.7	.....

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

Of the eight cities for which separate totals are given, the manufactures in five gave employment to more than 1,000 wage earners on the average during the year. Minneapolis reported nearly one-third of the total wage earners of the state, and nearly one-half of the combined total for the cities shown in the

table. Four cities for which comparative figures are given show increases from census to census in the number of women employed.

The number of male wage earners greatly exceeds that of female in all cities, but an increasing proportion of women is shown in several cities. The number of female wage earners reported for St. Paul, Mankato, and Stillwater was less than the number in 1909. Minneapolis employed more women than any other city—principally in the manufacture of hosiery and knit goods, bags, and men's clothing. The manufactures of St. Paul, however, gave employment to the largest proportion of female wage earners, the industries furnishing employment being fur goods and millinery and lace goods.

The employment of children in the cities of Minnesota showed a steady decline from census to census. The total reported for the eight cities in 1914 was only 101, as compared with 154 in 1909, and 183 in 1904.

**Wage earners employed, by months.**—The following table gives, for all industries combined, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for the years 1914 and 1909, and for 1904 the average number employed during each month, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

Table 9

MONTH.	WAGE EARNERS IN MANUFACTURING INDUSTRIES.					
	Number. <sup>1</sup>			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	98,336	79,918	68,195	98.2	88.2	91.5
February.....	100,110	80,909	68,703	100.0	89.3	92.2
March.....	96,982	82,081	68,460	96.9	90.6	91.9
April.....	92,417	81,134	65,771	92.3	89.5	88.3
May.....	92,257	82,952	69,055	92.2	91.5	92.7
June.....	92,310	85,038	69,603	92.2	93.8	93.4
July.....	92,007	84,667	68,896	91.9	93.4	92.5
August.....	91,128	85,847	69,992	91.0	94.7	95.8
September.....	89,739	87,643	71,358	89.6	96.7	95.8
October.....	90,525	90,620	74,607	90.4	100.0	100.0
November.....	89,202	89,503	72,275	89.1	98.8	97.0
December.....	88,995	86,896	68,817	88.9	95.9	92.4

<sup>1</sup> The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

The greatest number of wage earners were employed in the first three months of 1914, the maximum number, 100,110, being reported for February. During 1904 and 1909 the greatest activity is shown for the fall months, the maximum number appearing for October. The greatest difference between the maximum and minimum months in any one of the three census years was 11,115 in 1914.

Table 10 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for the combined industries of the state, for a number of selected industries,



and for the total industries of each city having a population of more than 10,000, for which statistics can be shown.

Table 10 shows that for the majority of the principal industries of the state there is a satisfactory stability of employment. Lumber, the most important industry, as measured by the number of wage earners, shows the greatest actual difference between the minimum and maximum months of employment. The timber camps which operate in winter account for the heavy enrollment of labor during that season. Brick and tile, also a seasonal industry, but of less

importance, shows a greater relative fluctuation, the number of wage earners reported for the minimum month of employment being 35.8 per cent of the number for the maximum month. Agricultural implement factories also show wide variation between the periods of greatest and least activity, March showing the employment of 1,104 wage earners and November only 414. The least fluctuation in number employed is shown for printing and publishing and tobacco manufactures, for which industries the percentages that the minimum formed of the maximum were 98.3 and 97.2, respectively.

Table 10

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by **boldface** figures and that of minimum by *italic* figures.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	92,834	98,336	<b>100,110</b>	96,982	92,417	92,257	92,310	92,007	91,128	89,739	90,525	89,202	<i>88,095</i>	88.0
Agricultural implements.....	872	1,031	1,091	<b>1,104</b>	1,065	998	957	1,012	782	554	532	<i>414</i>	924	37.5
Boots and shoes.....	2,012	1,964	<b>2,268</b>	2,151	2,100	2,115	2,047	2,026	1,827	<i>1,751</i>	1,900	2,027	1,068	77.2
Bread and other bakery products.....	2,169	<i>2,078</i>	2,094	2,095	2,140	2,158	2,199	2,182	2,194	<b>2,250</b>	<b>2,227</b>	2,192	2,224	92.1
Brick, tile, pottery, and other clay products.....	1,446	<i>801</i>	802	900	1,224	1,926	2,200	<b>2,235</b>	2,170	1,770	1,365	1,071	888	35.8
Butter and cheese.....	1,458	1,325	<i>1,519</i>	1,346	1,440	1,515	<b>1,597</b>	1,597	<i>1,582</i>	1,520	<b>1,448</b>	1,411	1,401	82.6
Carriages and wagons and materials.....	854	890	<b>946</b>	946	914	856	854	870	870	800	756	751	795	79.4
Cars and general shop construction and repairs by steam-railroad companies.....	10,551	10,495	10,573	<b>11,005</b>	10,764	10,516	10,526	10,743	10,440	10,424	10,510	10,516	<i>10,100</i>	91.8
Clothing, men's, including shirts.....	2,468	2,649	2,607	2,646	2,597	<b>2,652</b>	2,433	2,319	2,425	2,426	<b>2,326</b>	<i>2,217</i>	2,319	83.6
Confectionery.....	843	769	817	795	785	766	732	717	780	978	1,000	977	<b>1,000</b>	71.7
Copper, tin, and sheet-iron products.....	1,087	<i>868</i>	973	1,010	1,061	1,149	1,187	1,202	<b>1,205</b>	1,185	1,104	1,021	981	80.2
Flour-mill and gristmill products.....	4,564	4,647	<b>4,673</b>	4,588	4,492	4,483	4,485	<i>4,466</i>	4,482	4,661	4,530	4,616	4,645	95.6
Foundry and machine-shop products.....	7,051	6,690	<b>6,596</b>	6,601	6,943	7,189	7,488	<b>7,646</b>	<b>7,655</b>	7,465	7,105	6,801	6,833	80.2
Fur goods.....	838	<i>760</i>	771	778	781	765	761	818	864	898	920	<b>970</b>	970	78.4
Furniture and refrigerators.....	1,739	<i>1,634</i>	<b>1,776</b>	1,780	1,814	<b>1,829</b>	1,801	1,785	1,705	1,726	1,701	1,681	1,636	80.3
Gas, illuminating and heating.....	1,038	880	<i>878</i>	<i>869</i>	1,052	1,236	1,170	1,144	1,162	1,105	1,054	995	911	70.3
Hosiery and knit goods.....	2,088	<i>1,974</i>	2,052	<b>2,150</b>	2,118	2,075	2,146	2,057	2,110	2,114	2,111	2,058	2,091	91.8
Liquors, malt.....	1,934	<i>1,934</i>	<i>1,892</i>	1,914	1,960	2,046	2,315	2,370	2,304	2,081	1,994	1,907	1,907	79.8
Lumber and timber products.....	20,947	29,295	<b>29,647</b>	25,851	20,479	19,302	18,251	17,588	16,981	<i>16,161</i>	15,698	19,263	19,418	54.5
Marble and stone work.....	1,579	<i>1,029</i>	1,153	1,329	1,539	1,702	1,798	1,828	1,837	<b>1,839</b>	1,796	1,605	1,493	56.0
Paper and wood pulp.....	1,345	1,389	<b>1,467</b>	1,437	1,413	1,366	1,306	1,303	1,261	1,284	1,336	1,317	<i>1,261</i>	80.0
Printing and publishing.....	6,134	<i>6,077</i>	6,110	6,141	6,161	6,147	6,175	6,115	6,130	<b>6,179</b>	6,117	6,126	6,130	98.3
Slaughtering and meat packing.....	2,587	2,977	2,836	2,661	2,478	<b>2,223</b>	2,444	2,494	2,271	2,261	2,416	2,274	3,032	73.3
Tobacco manufactures.....	1,261	1,263	1,264	1,258	1,250	<i>1,241</i>	1,241	1,254	<b>1,277</b>	1,275	1,267	1,274	1,208	97.2
All other industries.....	15,851	14,824	15,505	15,627	15,847	16,002	16,197	16,236	16,814	<b>17,002</b>	16,817	16,271	<i>14,670</i>	85.7
Total for cities <sup>1</sup> .....	58,256	58,000	<b>59,360</b>	58,961	58,173	58,604	59,097	58,900	58,507	58,340	57,486	57,040	<i>56,604</i>	95.4
DULUTH.....	5,538	<b>7,084</b>	7,059	6,666	5,205	4,768	<i>4,638</i>	4,718	4,692	4,719	4,977	5,747	6,133	66.2
HIBBING.....	65	71	71	67	64	63	64	64	66	61	63	64	62	85.0
MANKATO.....	755	<i>631</i>	640	703	807	<b>846</b>	829	837	<b>834</b>	798	744	694	697	74.6
MINNEAPOLIS.....	28,295	<i>26,950</i>	27,663	27,587	28,158	28,688	29,211	29,013	<b>29,479</b>	29,448	28,582	27,651	27,110	91.4
ST. CLOUD.....	1,429	<i>1,320</i>	1,335	1,343	1,393	1,448	1,485	<b>1,513</b>	1,455	1,480	1,463	1,452	1,461	87.2
ST. PAUL.....	19,483	19,090	19,782	19,764	19,761	<b>19,934</b>	19,932	19,890	19,819	19,355	19,231	19,049	<i>18,689</i>	93.8
STILLWATER.....	621	778	781	770	736	772	742	702	487	<i>423</i>	417	421	423	53.4
WINONA.....	2,070	2,076	2,029	2,061	2,049	2,085	2,146	2,163	2,175	2,056	2,009	<i>1,962</i>	2,029	90.2

<sup>1</sup> Excludes Virginia, to avoid disclosure of individual operations.

In 1914 the average number of wage earners in all industries combined was 92,834 as compared with 84,767 in 1909, but a comparison of the selected industries covered by the table shows a wide diversity of increase and decrease in the number employed. Flour-mill and gristmill products, the largest manufacturing industry in the state, shows an increase of 219 in the average number of wage earners but less fluctuation in monthly employment in the later year

than in the earlier, the percentage which the minimum number formed of the maximum in 1914 being 95.6, as compared with 87 in 1909. On the other hand, the lumber and timber industry, for which there appears a slight increase in average number of wage earners during the five-year period 1909-1914, showed a much greater fluctuation in 1914 than in 1909, the percentages which the minimum formed of the maximum number being 54.5 and 83, respec-

tively. Bread and other bakery products, flour-mill and gristmill products, printing and publishing, and the tobacco industry showed the most constant employment of wage earners. The leading cities, Minneapolis, St. Paul, and Winona, show stability of employment, the percentage which the number reported for the minimum month of employment formed of the maximum, being 91.4, 93.8, and 90.2, respectively. The greatest fluctuation in the employment of wage earners was reported in Stillwater, where the proportion that the minimum number formed of the maximum was 53.4 per cent.

**Prevailing hours of labor.**—In Table 11 the average number of wage earners reported for 1914 and 1909, for all industries combined and for selected industries throughout the state have been classified according to number of hours of labor per week prevailing in the establishments in which they were employed. A similar classification is given for 1914 only, for all industries combined in each city having more than 10,000 inhabitants for which separate statistics can be given. The number employed in each establishment is classified as a total even though a few employees worked a greater or less number of hours.

Table 11

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.							
		Total.	In establishments where the prevailing hours of labor per week were—						
			48 and under.	Between 48 and 54.	54	Between 54 and 60.	60	Between 60 and 72.	72 Over 72.
All industries.....	1914	92,834	14,041	8,499	18,116	13,753	35,563	1,744	934
	1909	84,767	7,745	6,452	12,754	14,206	40,103	1,680	1,269
Agricultural implements.....	1914	872	1	9	179	683			
	1909	1,014	1	6	39	968			
Boots and shoes.....	1914	2,012	39	432	779	762			
	1909	2,064		8	1,732	920			
Bread and other bakery products.....	1914	2,169	232	74	983	776	23	5	1
	1909	1,696	121	4	202	1,255	76	10	2
Brick, tile, pottery, and other clay products.....	1914	1,446	283	11	162	975	7		
	1909	1,450	182		40	1,210	1		
Butter and cheese.....	1914	1,458	235	20	309	809	54	16	5
	1909	1,184	245	4	114	692	43	42	4
Carriages and wagons and materials.....	1914	854	12	27	164	411	240		
	1909	868	3	25	36	182	622		
Cars and general shop construction and repairs by steam-railroad companies.....	1914	10,551	2,031	1,746	2,257	3,049	1,067	401	
	1909	8,232	336	1,484	4,014	2,159	239		
Clothing, men's, including shirts.....	1914	2,468	738	1,035	528	136	31		
	1909	2,156	149	272	642	1,040	53		
Confectionery.....	1914	843	22	36	435	297	53		
	1909	715	4	4	47	159	501		
Copper, tin, and sheet-iron products.....	1914	1,087	473	24	146	287	157		
	1909	1,081	463	118	143	268	89		
Flour-mill and gristmill products.....	1914	4,564	1,458		904	18	1,646	355	181
	1909	4,345	353	3	1,300	907	1,207	343	232
Foundry and machine-shop products.....	1914	7,051	200	389	1,126	3,747	1,547	42	
	1909	6,002	32	57	856	3,398	1,659		
Fur goods.....	1914	838	23	472	340	3			
	1909	1,050	140	610	254	2	44		
Furniture and refrigerators.....	1914	1,739	14	9	423	442	851		
	1909	1,695	10	16	356	77	1,236		
Gas, illuminating and heating.....	1914	1,038	13		18	633	43	287	17
	1909	848	15		4		9	7	813
Hosiery and knit goods.....	1914	2,088	35	32	2,021				
	1909	1,062			48	866	138		
Liquors, malt.....	1914	2,052	1,057	3	645		347		
	1909	1,653	617		438	206	392		
Lumber and timber products.....	1914	20,947	28	425	1,668	706	17,770	343	7
	1909	20,704	133		226	442	19,574	324	5
Marble and stone work.....	1914	1,570	971	14	184	197	213		
	1909	1,738	714		149	326	549		
Paper and wood pulp.....	1914	1,345					900		
	1909	607					77	448	445
Printing and publishing.....	1914	6,134	3,442	1,639	795	64	172	22	
	1909	5,641	1,905	2,108	863	395	210	162	
Slaughtering and meat packing.....	1914	2,587	1	15	13	9	2,549		
	1909	1,921	1	13	22	2	1,881	2	
Tobacco manufactures.....	1914	1,261	925	210	78	2	46		
	1909	1,613	1,173	290	39	34	77		
All other industries.....	1914	15,851	1,808	2,318	4,476	2,701	3,926	210	263
	1909	14,832	1,142	1,442	2,947	4,048	4,581	35	111
Total for cities <sup>1</sup> .....	1914	58,256	12,267	7,777	14,361	10,688	11,676	837	545
DULUTH.....	1914	5,538	464	308	1,364	797	2,264	183	83
HIBBING.....	1914	65	42		5		18		
MANKATO.....	1914	755	55	24	239	9	397	27	4
MINNEAPOLIS.....	1914	28,295	6,403	1,612	9,013	5,464	5,359	195	244
ST. CLOUD.....	1914	1,429	486	96	95	49	678	10	15
ST. PAUL.....	1914	19,483	4,592	5,230	2,980	3,667	2,400	422	182
STILLWATER.....	1914	621	60	4	46	204	290		17
WINONA.....	1914	2,070	165	503	619	498	264		21

<sup>1</sup> Excludes Virginia, to avoid disclosure of individual operations.

The figures in the preceding table, for the state as a whole and for most of the individual industries, emphasize the tendency toward a shortening of the working day. The entire increase of 8,067 in the number of wage earners occurred in establishments in which the prevailing hours of labor were 54 or less per week. Four of the five groups of establishments operating more than 54 hours per week show a decrease in the number of wage earners employed. In 1909, 43,610, or more than one-half of the total average number of the total wage earners in all industries combined were employed in establishments where the prevailing hours of labor were 60 or more per week, while but 38,425, or more than two-fifths, were so employed in 1914. On the other hand, the number of wage earners in establishments whose working hours were less than 60 per week increased from 41,157 in 1909 to 54,409 in 1914. Establishments operating on the 10-hour a day basis employed the largest number of wage earners in 1914, as in 1909. The lumber industry contributed almost one-half of the employees in this group at both censuses.

Among the separate industries, men's clothing shows the most pronounced decrease in hours of labor. In 1909, 49.3 per cent of the wage earners in this industry were employed in establishments where the hours of

labor were 54 or less per week, while in 1914 the proportion thus employed had increased to 93.2 per cent. In the hosiery and knit goods industry in 1909 only 4.6 per cent of the wage earners were employed in establishments reporting their prevailing hours of labor as 54 or less per week, but in 1914 all of the wage earners in this industry were employed in establishments where such hours prevailed. Foundry and machine-shop products, lumber and timber products, and printing and publishing also show decreased hours of employment.

Of the 58,256 wage earners in the cities for which separate statistics can be given in 1914, 45,093, or more than three-fourths, were in establishments where the prevailing hours were less than 60 per week, while only 13,163 were in establishments in which the hours were 60 or more per week. In Minneapolis the greatest number of wage earners were employed in establishments operating 54 hours per week, while in St. Paul the greatest number were employed from 48 to 54 hours.

**Location of establishments.**—Table 12 shows, for 1914, 1909, and 1899, the extent to which the manufactures in Minnesota were centralized in the cities having more than 10,000 inhabitants in 1914 for which separate statistics can be given.

Table 12 -	Census year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 OR OVER.								DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 OR OVER. <sup>1</sup>	
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.			
			Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent aggregate.
Number of places.....	1914 1910 1900	----- ----- -----	8 7 6	----- ----- -----	5 4 3	----- ----- -----	1 1 1	----- ----- -----	2 2 2	----- ----- -----	----- ----- -----	----- ----- -----
Population <sup>2</sup> .....	1914 1910 1900	2,213,919 2,075,708 1,751,394	734,276 644,364 461,383	33.2 31.0 26.3	64,713 49,746 42,631	2.9 2.4 2.4	89,331 78,466 52,969	4.0 3.8 3.0	580,232 516,152 365,783	26.2 24.9 20.9	1,479,643 1,431,344 1,290,011	66.8 68.9 73.9
Number of establishments.	1914 1909 1899	5,974 5,561 4,096	2,622 2,284 1,603	43.9 41.1 39.1	293 269 151	4.9 4.8 3.7	243 194 126	4.1 3.5 3.1	2,086 1,821 1,326	34.9 32.7 32.4	3,352 3,277 2,493	56.1 58.9 60.9
Average number of wage earners.	1914 1909 1899	92,834 84,767 64,557	58,256 56,537 39,611	62.8 66.7 61.4	4,940 4,153 3,314	5.3 4.9 5.1	5,538 6,083 3,658	6.0 7.2 5.7	47,778 46,301 32,639	51.5 54.6 50.6	34,578 28,230 24,946	37.2 33.3 38.6
Value of products.....	1914 1909 1899	\$493,354,136 409,419,621 223,692,922	\$299,741,311 261,481,912 141,976,434	60.8 63.9 63.5	\$23,475,663 19,907,144 9,701,844	4.8 4.9 4.3	\$19,729,283 17,180,063 7,810,737	4.0 4.2 3.5	\$256,536,365 224,394,705 124,463,853	52.0 54.8 55.6	\$193,612,825 147,937,709 81,716,488	39.2 36.1 36.5
Value added by manufac- ture.	1914 1900 1899	156,504,922 127,797,334 73,393,645	105,343,602 89,296,852 47,089,324	67.3 69.9 64.2	7,614,121 6,858,783 3,295,974	4.9 5.4 4.5	8,211,614 8,336,133 4,151,749	5.2 6.5 5.7	89,517,867 74,101,936 39,641,601	57.2 58.0 54.0	51,161,320 38,500,482 26,304,321	32.7 30.1 35.8

<sup>1</sup> Includes Virginia, to avoid disclosure of individual operations.

<sup>2</sup> Census estimate of population for 1914.

Table 12 shows that the increase in the manufactures of the state was general and extended to both the urban and rural districts. During the 15 years covered by the table the increase in the value of products for the urban districts, represented by the cities of 10,000 inhabitants or over amounted to \$157,764,877, or 111.1 per cent, while that of the rural

districts amounted to \$111,896,337, or 136.9 per cent. The relative importance of the manufactures, as measured by the value of products for the districts outside the cities, has increased, while that of the cities has decreased. On the other hand, the per cent that the establishments, wage earners, and value added by manufacture, of the establishments in the districts

outside of cities, has decreased, while the relative importance of the manufactures of the cities, as measured by these items, has increased. Comparisons for the cities or for the districts outside are affected by the increase in the population of cities. The population of Hibbing in 1909 and 1899 and that of St. Cloud and Virginia in 1899, was less than 10,000, and the statistics for these cities, therefore, were included with those for the outside districts. Virginia had more than 10,000 inhabitants in 1909 and in 1914, but for the later date statistics are included in the outside districts in order to avoid disclosure of individual operations and at the earlier date are in the same group for comparative purposes.

The eight cities, which contained a third of the estimated population of the state in 1914, reported about two-thirds of the total value of products and of the total average number of wage earners. The corresponding proportions for 1909 differed only slightly from those shown in 1914.

The relative importance in manufactures of the cities having more than 10,000 inhabitants for which separate statistics can be given, as measured by average number of wage earners and by value of products in 1914, 1909, and 1904, is shown in Table 13. The cities are listed in the order of their importance as shown by value of products. Those for which comparative figures are not shown for 1909 and 1904 had less than 10,000 inhabitants in those years.

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1914	1909	1904	1914	1909	1904
Minneapolis.....	28,295	26,962	21,671	\$187,854,159	\$165,404,680	\$121,162,416
St. Paul.....	19,483	19,339	14,363	68,682,206	58,990,025	38,318,704
Duluth.....	5,538	6,083	3,987	19,729,283	17,180,063	10,139,009
Winona.....	2,070	2,032	1,953	14,304,780	11,199,622	7,850,236
Mankato.....	755	807	724	4,344,114	3,722,736	3,422,117
St. Cloud.....	1,429	626		2,695,492	2,299,063	
Stillwater.....	621	688	955	1,876,877	2,685,723	2,784,113
Hibbing.....	65			254,400		

The manufactures of Minneapolis, St. Paul, Duluth, Winona, and Mankato, show an increase in value while those for Stillwater decreased, for each of the five-year periods 1904-1909 and 1909-1914.

For the period 1909-1914 Duluth and Mankato show a decrease in average number of wage earners, notwithstanding an increase in value of products.

Minneapolis, the largest city in the state, is also its most important industrial center. Ranked by value of products, it was fourteenth among the cities of the United States in 1909 and 1914, and fifteenth in 1904. During the decade the value of its manufactures increased \$66,691,743, or 55 per cent, and in 1914 represented 38.1 per cent of the total for the state. The value of the output of the flour-mills and grist-mills of the city constituted 57.4 per cent of the total for the industry in the state, and nearly half of the

total value of all manufactured products reported for the city. Of the total value of the flour-mill and gristmill products of continental United States in 1914, this city contributed 9.7 per cent. Other important industries of Minneapolis, in the order of their importance as measured by value of products, are foundries and machine shops, the linseed oil and lumber industries, printing and publishing, and the manufacture of bags. More than four-fifths of the linseed oil produced in the state, as measured by value, is manufactured in Minneapolis. The extensive milling operations account for the large production of bags.

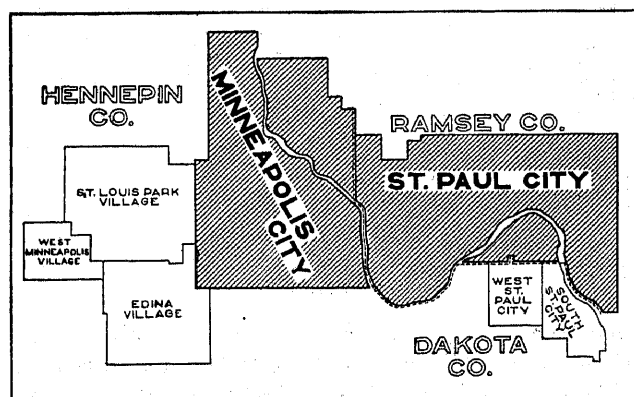
St. Paul, the second city in the state in both population and manufactures, shows an increase of 79.2 per cent in value of products during the decade. The chief industries are printing and publishing and foundries and machine shops, although the breweries, the manufacture of butter, fur goods, boots and shoes, and steam-railroad repair shops, are also important.

The leading industry of Duluth is the manufacture of lumber, the value of its products constituting about one-fifth of the total manufactures reported for the city. Other important industries are foundries and machine shops, breweries, and printing and publishing.

Flour milling and gristmilling and the manufacture of patent medicines and compounds and druggists' preparations constitute the most important industries of Winona.

Mankato and St. Cloud owe their industrial development to the flour-mill industry, and Stillwater to the production of boots and shoes. The leading industry in Virginia was lumber, and in Hibbing, bakery products.

**Metropolitan district of Minneapolis-St. Paul.**—The Minneapolis-St. Paul metropolitan district embraces 96,459 acres, of which 65,457 acres represent the area of Minneapolis and St. Paul, and 31,002 acres the area of the outside territory. The accompanying outline map shows the boundaries of the district.



The estimated population of Minneapolis in 1914 was 343,466, that of St. Paul 236,766 and that of the outside territory 15,365, the total for the district being 595,597. The district comprises, in addition to the

cities of Minneapolis and St. Paul, the villages of Edina, West Minneapolis, and St. Louis Park, in Hennepin County, and the cities of South St. Paul and West St. Paul in Dakota County.

*Summary for the district.*—Table 14 is a summary for 1914 of the statistics of manufacturing industries, with

a statement of the estimated population in 1914 of the Minneapolis-St. Paul district, of the cities of Minneapolis and St. Paul, and of the remainder of the district; the percentages which the figures for Minneapolis and St. Paul represent separately of the total for the district being shown for each item.

Table 14

	MINNEAPOLIS-ST. PAUL METROPOLITAN DISTRICT: 1914.				PER CENT OF TOTAL FOR DISTRICT.	
	The district.	Minneapolis.	St. Paul.	District exclusive of Minneapolis and St. Paul.	Minneapolis.	St. Paul.
Population.....	595,597	343,466	236,766	15,365	57.7	39.8
Number of establishments.....	2,116	1,349	737	30	63.8	34.8
Persons engaged.....	64,632	36,459	24,680	3,493	56.4	38.2
Proprietors and firm members.....	1,867	1,217	628	22	65.2	33.6
Salaried employees.....	12,068	6,947	4,569	552	57.6	37.9
Wage earners (average number).....	50,697	28,295	19,483	2,919	55.8	38.4
Primary horsepower.....	154,451	109,040	38,886	6,525	70.6	25.2
Capital.....	\$206,599,072	\$115,591,908	\$76,789,920	\$14,217,244	55.9	37.2
Salaries and wages.....	49,545,769	28,481,977	18,155,356	2,908,436	57.5	36.6
Salaries.....	15,632,595	9,587,328	5,359,705	685,562	62.4	34.9
Wages.....	33,913,174	18,894,649	12,795,651	2,222,874	55.7	37.7
Paid for contract work.....	1,534,494	984,635	547,021	2,838	64.2	35.6
Rent and taxes.....	4,955,145	2,753,103	2,087,643	114,399	55.6	42.1
Cost of materials.....	199,383,335	131,199,445	35,819,053	32,364,837	65.8	18.0
Value of products.....	295,292,581	187,854,159	68,682,206	38,756,216	63.6	23.3
Value added by manufacture (value of products less cost of materials).....	95,909,246	56,654,714	32,863,153	6,391,379	59.1	34.3

<sup>1</sup> Estimated population July 1, 1914.

In 1914 the metropolitan district had 2,116 manufacturing establishments, which gave employment to 64,632 persons during the year and paid out \$49,545,769 in salaries and wages. Of the persons employed, 50,697 were wage earners. These establishments manufactured products to the value of \$295,292,581, to produce which materials were used costing \$199,383,335. The value added by manufacture was thus \$95,909,246.

*Comparison with earlier censuses.*—Table 15 gives statistics for the district for 1914, 1909, and 1904. Percentages of increase are shown for the territory in-

cluded in the metropolitan district for the decade and for each five-year period.

The relative increase in all the items for which comparative figures are given in the table was smaller during the more recent five-year period 1909–1914 than during the period 1904–1909. For the decade, the relative increase was much greater in number of salaried employees and salaries than for any other items. The average number of wage earners increased 36.9 per cent during this period, while the amount paid for wages increased 77.1 per cent, and the value of products 82.5 per cent.

Table 15

	MINNEAPOLIS-ST. PAUL METROPOLITAN DISTRICT.			PER CENT OF INCREASE.		
	1914	1909	1904	1904–1914	1909–1914	1904–1909
Population.....	<sup>1</sup> 595,597	<sup>2</sup> 526,256	<sup>3</sup> 473,762	25.7	13.2	11.1
Number of establishments.....	2,116	1,844	1,506	40.5	14.8	22.4
Persons engaged.....	64,632	59,920	44,297	45.9	7.9	35.3
Proprietors and firm members.....	1,867	1,674	1,423	31.2	11.5	17.6
Salaried employees.....	12,068	9,978	5,830	107.0	20.9	71.1
Wage earners (average number).....	50,697	48,268	37,044	36.9	5.0	30.3
Primary horsepower.....	154,451	119,219	90,111	71.4	29.6	32.3
Capital.....	\$206,599,072	\$160,628,295	\$108,209,964	90.9	28.6	48.4
Salaries and wages.....	49,545,769	38,596,508	25,142,703	97.1	28.4	53.5
Salaries.....	15,632,595	10,871,801	5,994,418	160.8	42.8	81.4
Wages.....	33,913,174	27,724,707	19,148,285	77.1	23.3	44.8
Cost of materials.....	199,383,335	166,823,348	109,364,757	82.3	19.5	52.5
Value of products.....	295,292,581	244,339,598	161,803,453	82.5	20.9	51.0
Value added by manufacture (value of products less cost of materials).....	95,909,246	77,516,250	52,438,696	82.9	23.7	47.8

<sup>1</sup> Estimated population July 1, 1914.

<sup>2</sup> Apr. 15, 1910.

<sup>3</sup> State census, June 1, 1905.

*Comparative summary, by industries.*—Table 16 gives statistics for 1914 and 1909 for selected industries of the district having products of \$2,000,000 or more.

There were 272 more establishments in the district in 1914 than in 1909, but the number of wage earners increased only 5 per cent and the value of products 20.9 per cent. The greatest relative gain in value of

products during this period was in the manufacture of butter, 70.1 per cent.

Of the industries shown in Table 16, foundries and machine shops and gas plants were the only ones which operated to any extent in the part of the district which is outside the corporate limits of Minneapolis and St. Paul.

Table 16

MINNEAPOLIS-ST. PAUL METROPOLITAN DISTRICT: 1914 AND 1909.

INDUSTRY.	Census year.	Number of establishments.	Persons engaged in industry.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
All industries .....	1914 1909	2,116 1,844	64,632 59,920	1,867 1,674	12,068 9,978	50,697 48,268	154,451 119,219	\$206,599,072 180,628,295	\$15,632,595 10,871,801	\$33,913,174 27,724,707	\$109,383,335 166,823,348	\$295,292,581 244,339,598	\$95,909,246 77,516,250
Bread and other bakery products.	1914 1909	196 169	2,325 1,663	194 185	499 214	1,632 1,264	1,973 800	5,451,435 4,138,935	470,783 229,472	970,026 734,041	3,584,908 2,779,482	6,504,202 4,973,477	2,919,294 2,193,995
Butter .....	1914 1909	15 13	276 151	4 10	98 64	174 77	898 859	985,827 379,707	104,355 41,614	131,808 56,072	4,342,019 2,529,913	4,753,108 2,794,601	411,089 264,688
Cars and general shop construction and repairs by steam-railroad companies.	1914 1909	12 10	6,536 5,251	..... .....	323 269	6,208 4,982	6,974 5,195	10,938,246 8,281,634	358,070 274,391	4,303,075 3,440,205	3,654,985 4,183,112	8,365,404 7,949,016	4,710,419 3,765,904
Clothing, men's, including shirts.	1914 1909	32 30	2,264 1,906	25 37	316 179	1,923 1,690	481 331	2,226,591 1,783,787	302,739 194,565	789,433 567,982	2,841,873 2,255,321	4,464,229 3,528,281	1,622,356 1,272,960
Copper, tin, and sheet-iron products.	1914 1909	96 78	1,051 1,121	101 71	128 136	822 914	441 424	2,875,691 2,570,297	137,274 138,272	536,040 545,411	1,161,370 1,074,716	2,377,523 2,220,929	2,216,153 1,146,213
Flour-mill and gristmill products.	1914 1909	119 113	4,220 3,594	10 6	1,630 1,309	2,580 2,279	61,884 50,698	25,557,517 19,869,105	2,233,303 1,295,351	2,025,660 1,530,425	73,078,503 70,952,696	85,132,444 78,669,808	12,053,941 7,717,112
Food preparations, not elsewhere specified.	1914 1909	20 25	541 505	14 21	136 104	391 380	1,089 710	1,594,400 1,390,247	284,850 207,598	232,838 191,183	2,874,018 2,442,238	4,739,118 3,723,829	1,865,100 1,281,591
Foundry and machine-shop products.	1914 1909	214 144	6,653 5,758	166 94	1,091 880	5,396 4,784	11,636 7,032	19,081,754 13,208,513	1,606,950 993,031	4,056,324 3,082,677	7,773,624 5,786,604	16,602,184 12,394,257	8,828,560 6,607,653
Fur goods .....	1914 1909	29 31	1,133 1,219	28 34	303 190	802 995	345 272	3,168,177 2,122,333	329,751 218,632	532,051 541,092	2,609,637 2,123,248	4,074,641 3,620,432	1,465,004 1,497,234
Furniture and refrigerators .....	1914 1909	44 42	1,409 1,451	37 35	182 162	1,190 1,264	2,848 1,877	3,203,214 2,865,578	270,102 181,191	820,677 734,299	1,304,970 1,512,522	3,209,067 2,940,460	1,904,097 1,427,938
Gas, illuminating and heating .....	1914 1909	7 4	1,129 879	..... .....	230 131	899 748	4,371 1,109	15,576,822 12,141,317	285,286 140,805	565,930 237,772	1,447,627 645,732	3,604,958 2,491,300	2,157,331 1,845,568
Lumber and timber products .....	1914 1909	58 51	3,673 5,990	30 30	359 311	3,284 5,649	10,443 14,628	10,873,745 13,235,052	520,941 506,919	2,172,073 3,189,933	5,462,702 6,931,605	10,454,134 13,186,892	4,991,432 6,225,287
Patent medicines and compounds and druggists' preparations.	1914 1909	78 77	719 799	61 62	298 443	360 294	471 417	954,582 2,138,966	234,906 236,476	174,794 122,082	697,673 614,897	2,167,124 2,119,126	1,469,451 1,504,259
Printing and publishing .....	1914 1909	359 329	6,916 6,258	285 374	2,248 2,044	4,383 3,840	4,738 3,963	10,528,422 9,934,236	2,663,521 2,509,881	3,114,654 3,215,188	4,493,036 12,298,881	15,768,146 12,098,881	11,275,110 9,083,693
All other industries .....	1914 1909	937 828	25,787 23,375	912 715	4,222 3,552	20,653 19,108	45,859 31,004	93,584,649 66,568,088	5,829,764 4,279,122	13,487,791 10,241,655	84,056,390 59,746,104	123,076,299 91,428,259	39,019,909 31,682,155

¹ Excludes statistics for two establishments, to avoid disclosure of individual operations.

The principal industry of the district is the manufacture of flour which, with the exception of two establishments in St. Paul, was confined to Minneapolis. Other important industries of the district were foundries and machine shops, printing and publishing, the lumber industry, and steam-railroad repair shops. In addition to the industries shown in Table 16, there were three having products valued at more than \$2,000,000, namely, boots and shoes; coffee, roasting and grinding; and malt liquors.

**Character of ownership.**—Table 17 presents statistics in respect to character of ownership, or legal organization, of manufacturing enterprises. For all industries combined, comparative figures are given for 1914, 1909, and 1904; for selected industries, statistics for 1914 and 1909 are shown; and for individual cities, the figures are for all industries combined and relate only to 1914. In order to avoid

disclosing the operations of individual establishments, it is necessary to omit several important industries from this table.

The marked tendency toward the corporate form of ownership in the state is shown by the increasing proportion of the total average number of wage earners and value of products reported by corporations at each successive census. While this class reported but 24.8 per cent of the total number of establishments in the state, it is credited with 83.6 per cent of the total value of products and 81.3 per cent of the total average number of wage earners for all classes of establishments. The manufacture of fur goods and the butter and cheese industry, which includes numerous creameries operated by cooperative associations, are the two industries in which the largest proportion of the total value of products is reported by establishments other than those under corporate ownership.



## MANUFACTURES—MINNESOTA.

Table 17

INDUSTRY AND CITY.	Census year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE OWNERS.									VALUE OF PRODUCTS.								
		Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
						Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.		Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.				
All industries.....	1914	2,825	1,482	1,667	92,834	8,502	75,505	8,827	9.2	81.3	9.5	\$493,354,136	\$31,330,735	\$412,386,480	\$49,636,921	6.4	83.6	10.1				
	1909	2,654	1,326	1,581	84,767	9,123	67,475	8,169	10.8	79.6	9.6	409,419,621	37,022,048	330,924,567	41,473,006	9.0	80.8	10.1				
	1904	2,325	922	1,509	69,636	9,589	49,889	10,158	13.8	71.6	14.6	307,858,073	35,226,563	234,013,794	38,617,716	11.4	70.0	12.5				
Bread and other bakery products.	1914	346	40	57	2,169	738	1,263	168	34.0	58.2	7.7	8,724,162	2,966,004	5,076,418	681,740	34.0	58.2	7.8				
	1909	331	19	53	1,696	687	801	208	40.5	47.2	12.3	6,785,083	2,766,373	3,189,787	828,923	40.8	47.0	12.2				
Butter and cheese.....	1914	126	48	633	1,458	157	356	945	10.8	24.4	64.8	33,746,396	3,269,926	8,453,162	22,023,308	9.7	25.0	65.3				
	1909	150	46	588	1,184	192	165	827	16.2	13.9	69.9	25,287,462	4,592,276	3,957,931	16,737,255	18.2	15.7	66.2				
Cars and general shop construction and repairs by steam-railroad companies.	1914	.....	38	.....	10,551	.....	10,551	.....	100.0	.....	.....	14,594,018	.....	14,594,018	.....	100.0	.....	.....				
	1909	.....	28	.....	8,232	.....	8,232	.....	100.0	.....	.....	12,630,653	.....	12,630,653	.....	100.0	.....	.....				
Clothing, men's, including shirts.	1914	14	23	8	2,468	161	1,824	483	6.5	73.9	19.6	5,616,322	279,832	4,562,546	773,944	5.0	81.2	13.8				
	1909	6	21	14	2,156	67	1,486	603	3.1	68.9	28.0	4,458,919	181,661	2,865,042	1,412,216	4.1	64.2	31.7				
Flour-mill and gristmill products.	1914	105	105	76	4,564	282	3,984	298	6.2	87.3	6.5	148,243,708	5,999,856	134,861,980	7,381,872	4.0	91.0	5.0				
	1909	127	123	72	4,345	392	3,707	246	9.0	85.3	5.7	139,136,129	10,384,644	121,296,305	7,455,180	7.5	87.2	5.4				
Foundry and machine-shop products.	1914	158	150	101	7,051	498	5,395	1,158	7.1	76.5	16.4	21,405,023	1,144,480	17,887,742	2,372,801	5.3	83.6	11.1				
	1909	72	122	53	6,002	456	4,776	770	7.6	79.6	12.8	15,608,716	1,153,588	12,550,448	1,904,680	7.4	80.4	12.2				
Fur goods.....	1914	21	9	6	838	102	147	589	12.2	17.5	70.3	4,207,468	344,222	692,714	3,170,532	8.2	16.5	75.4				
	1909	29	7	6	1,056	200	507	349	18.9	48.0	33.0	3,775,970	858,822	1,757,912	1,159,236	22.7	46.6	30.7				
Liquors, malt.....	1914	21	36	8	2,052	86	1,915	51	4.2	93.3	2.5	14,266,296	387,630	13,639,940	238,726	2.7	95.6	1.7				
	1909	21	34	10	1,653	75	1,526	52	4.5	92.3	3.1	10,568,452	280,799	10,069,982	207,671	2.8	95.3	2.0				
Lumber and timber products.	1914	220	135	98	20,947	1,381	18,157	1,409	6.6	86.7	6.7	44,674,948	2,707,087	40,111,826	1,856,035	6.1	89.8	4.1				
	1909	265	128	132	20,704	1,431	18,220	1,053	6.9	88.0	5.1	42,352,507	2,396,899	38,163,207	1,792,401	5.7	90.1	4.2				
Malt.....	1914	.....	9	.....	168	.....	168	.....	100.0	.....	.....	5,636,696	.....	5,636,696	.....	100.0	.....	.....				
	1909	.....	9	.....	138	.....	138	.....	100.0	.....	.....	4,314,805	.....	4,314,805	.....	100.0	.....	.....				
Oil, linseed.....	1914	.....	6	.....	400	.....	400	.....	100.0	.....	.....	12,356,906	.....	12,356,906	.....	100.0	.....	.....				
	1909	.....	6	.....	374	.....	374	.....	100.0	.....	.....	11,036,916	.....	11,036,916	.....	100.0	.....	.....				
Printing and publishing..	1914	611	210	173	6,134	1,196	4,413	525	19.5	71.9	8.6	20,186,594	3,011,354	15,806,087	1,369,153	14.9	78.3	6.8				
	1909	584	175	191	5,641	1,297	3,742	602	23.0	66.3	10.7	15,982,212	2,852,132	11,646,607	1,483,473	17.8	72.9	9.3				
Slaughtering and meat packing.	1914	11	9	9	2,587	47	2,459	81	1.8	95.1	3.1	47,710,059	614,397	45,642,481	1,453,181	1.3	95.7	3.0				
	1909	12	11	7	1,921	37	1,824	60	1.9	95.0	3.1	25,753,697	431,504	24,680,830	641,363	1.7	95.8	2.5				
Total for cities <sup>1</sup> .....	1914	1,162	952	508	58,256	4,437	48,686	5,133	7.6	83.6	8.8	299,741,311	14,188,800	267,978,043	17,574,468	4.7	89.4	5.9				
DULUTH.....	1914	102	101	40	5,538	419	4,794	325	7.6	86.6	5.9	19,729,283	1,301,926	17,012,231	1,415,126	6.6	86.2	7.2				
HIBBING.....	1914	15	2	10	65	46	.....	19	70.8	.....	29.2	254,400	183,478	.....	70,922	72.1	.....	27.9				
MANKATO.....	1914	34	16	14	755	202	384	169	26.8	50.9	22.4	4,344,114	479,308	3,333,364	531,442	11.0	76.7	12.2				
MINNEAPOLIS.....	1914	585	511	253	28,295	2,019	24,544	1,732	7.1	86.7	6.1	187,854,159	5,810,546	175,237,770	6,805,843	3.1	93.3	3.6				
St. CLOUD.....	1914	37	20	20	1,429	157	919	353	11.0	64.3	24.7	2,695,492	689,459	1,511,583	494,450	25.6	56.1	18.3				
St. PAUL.....	1914	333	254	150	19,483	1,348	15,677	2,458	6.9	80.5	12.6	68,682,206	4,888,220	55,842,893	7,951,093	7.1	81.3	11.6				
STILLWATER.....	1914	19	10	5	621	78	522	21	12.6	84.1	3.4	1,876,877	237,299	1,589,486	50,092	12.6	84.7	2.7				
WINONA.....	1914	37	38	16	2,070	168	1,846	56	8.1	89.2	2.7	14,304,780	598,564	13,450,716	255,500	4.2	94.0	1.8				

<sup>1</sup> Excludes Virginia, to avoid disclosure of individual operations.<sup>2</sup> Includes the group "corporations."

Size of establishments.—The tendency for manufacturing to become concentrated in large establishments, is indicated by the statistics given in the following table.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904
All classes.....	5,974	5,561	4,756	92,834	84,767	69,636	\$493,354,136	\$409,419,621	\$307,858,073	\$156,504,922	\$127,797,334	\$97,304,124
Less than \$5,000.....	2,046	1,969	1,715	2,108	2,194	1,968	5,094,063	4,663,743	4,189,970	3,358,140	3,080,907	2,756,313
\$5,000 to \$20,000.....	1,894	1,743	1,646	7,238	6,767	6,397	19,742,774	18,742,099	17,401,291	10,370,932	9,419,792	8,251,465
\$20,000 to \$100,000.....	1,476	1,347	992	15,170	14,180	13,258	63,585,461	56,703,495	42,029,326	23,117,977	20,748,523	17,299,268
\$100,000 to \$1,000,000.....	486	437	364	38,311	37,726	34,455	144,677,126	130,802,555	111,696,067	56,613,265	51,618,590	45,194,100
\$1,000,000 and over.....	72	65	39	30,007	23,900	13,558	260,254,712	198,507,729	132,541,419	63,044,608	42,923,522	23,802,978
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	34.2	35.4	36.1	2.3	2.6	2.8	1.0	1.1	1.4	2.1	2.4	2.8
\$5,000 to \$20,000.....	31.7	31.3	34.6	7.8	8.0	9.2	4.0	4.6	5.7	6.6	7.4	8.5
\$20,000 to \$100,000.....	24.7	24.2	20.9	16.3	16.7	19.0	12.9	13.8	13.6	14.8	16.2	17.8
\$100,000 to \$1,000,000.....	8.1	7.9	7.7	41.3	44.5	49.5	29.3	31.9	36.3	36.2	40.4	46.4
\$1,000,000 and over.....	1.2	1.2	0.8	32.3	28.2	19.5	52.8	48.5	43.1	40.3	33.6	24.5

In 1914, 558 establishments, or 9.3 per cent of the total number in the state, each reported products exceeding \$100,000 in value, as compared with 502, or 9.1 per cent of the total, in 1909, and 403, or 8.5 per

cent, in 1904. In 1914 these establishments reported 68,318 as the average number of wage earners, or 73.6 per cent of the total for the state, 82.1 per cent of the total value of products, and 76.5 per cent of the total value added by manufacture. The small establishments, those having products valued at less than \$5,000 in 1914, represented 34.2 per cent of the total number of establishments but reported only 1 per cent

of the total value of products, 2.1 per cent of value added by manufacture, and 2.3 per cent of the average number of wage earners.

Table 19 gives, for 1914 and 1909, for 10 of the more important industries, a classification of establishments, wage earners, value of products, and value added by manufacture, similar to that presented in Table 18 for all industries combined.

Table 19 INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.				AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
			Per cent distribution.				Per cent distribution.				Per cent distribution.				Per cent distribution.	
	1914	1909			1914	1909			1914	1909			1914	1909		
			1914	1909			1914	1909			1914	1909			1914	1909
BREAD AND OTHER BAKERY PRODUCTS.....	443	403	100.0	100.0	2,169	1,696	100.0	100.0	\$8,724,162	\$6,785,083	100.0	100.0	\$3,929,774	\$2,981,083	100.0	100.0
Less than \$5,000.....	172	188	38.8	46.6	118	122	5.4	7.2	522,307	498,617	6.0	7.3	257,057	232,135	6.5	7.8
\$5,000 to \$20,000.....	212	166	47.9	41.2	553	388	25.5	22.9	2,068,581	1,546,967	23.7	22.8	937,096	692,205	23.8	23.2
\$20,000 to \$100,000.....	47	39	10.6	9.7	427	341	19.7	20.1	1,769,884	1,344,947	20.3	19.8	723,036	566,481	18.4	19.0
\$100,000 and over.....	112	10	2.7	2.5	1,071	845	49.4	49.8	4,363,390	3,394,552	50.0	50.0	2,012,585	1,490,262	51.2	50.0
BUTTER AND CHEESE.....	807	784	100.0	100.0	1,458	1,184	100.0	100.0	33,746,396	25,287,402	100.0	100.0	2,977,283	2,579,989	100.0	100.0
Less than \$5,000.....	33	41	4.1	5.2	16	20	1.1	1.7	103,410	135,307	0.3	0.5	12,161	22,668	0.4	0.9
\$5,000 to \$20,000.....	239	285	29.6	36.4	223	255	15.3	21.5	3,219,298	3,754,943	9.5	14.8	352,722	455,207	11.8	17.6
\$20,000 to \$100,000.....	497	438	61.6	55.9	833	752	57.1	63.5	20,390,762	16,301,849	60.4	64.5	1,780,084	1,541,188	59.8	59.7
\$100,000 and over <sup>1</sup> .....	38	20	4.7	2.6	386	157	26.5	13.3	10,032,926	5,095,363	29.7	20.1	832,316	560,926	28.0	21.7
CARS AND GENERAL SHOP CONSTRUCTION AND REPAIRS, BY STEAM-RAILROAD COMPANIES..	38	28	100.0	100.0	10,551	8,232	100.0	100.0	14,594,018	12,630,653	100.0	100.0	8,266,790	6,136,887	100.0	100.0
\$5,000 to \$20,000.....	3	2	7.9	7.1	21	( <sup>2</sup> )	0.2	.....	23,361	( <sup>2</sup> )	0.2	.....	14,515	( <sup>2</sup> )	0.2	.....
\$20,000 to \$100,000.....	13	8	34.2	28.6	455	386	4.3	4.7	728,611	467,872	5.0	3.7	439,736	282,302	5.3	4.6
\$100,000 to \$1,000,000.....	19	14	50.0	50.0	6,250	4,087	59.2	49.6	7,992,304	5,998,845	54.8	47.5	4,763,030	3,210,118	57.6	52.3
\$1,000,000 and over.....	3	4	7.9	14.3	3,825	3,759	36.3	45.7	5,849,742	6,183,936	40.1	48.8	3,049,509	2,644,467	36.9	43.1
CLOTHING, MEN'S, INCLUDING SHIRTS.....	45	41	100.0	100.0	2,468	2,156	100.0	100.0	5,616,322	4,458,919	100.0	100.0	1,975,894	1,645,242	100.0	100.0
Less than \$5,000.....	4	3	8.9	7.3	8	23	0.3	1.1	10,960	10,372	0.2	0.2	8,579	10,159	0.4	0.6
\$5,000 to \$20,000.....	11	7	24.4	17.1	142	111	5.8	5.1	111,587	71,934	2.0	1.6	77,485	53,577	3.9	3.3
\$20,000 to \$100,000.....	19	21	42.2	51.2	659	417	26.7	19.3	1,383,617	1,021,488	24.6	22.9	582,377	388,274	29.5	23.6
\$100,000 and over.....	11	10	24.4	24.4	1,059	1,005	42.2	44.4	4,110,158	3,355,125	73.2	75.2	1,307,453	1,193,232	66.2	72.5
FLOUR-MILL AND GRISTMILL PRODUCTS.....	286	322	100.0	100.0	4,564	4,345	100.0	100.0	148,243,708	139,136,129	100.0	100.0	20,929,137	14,918,812	100.0	100.0
Less than \$5,000.....	17	4	5.9	1.2	8	3	0.2	0.1	49,388	8,486	( <sup>3</sup> )	( <sup>3</sup> )	14,198	2,991	0.1	( <sup>3</sup> )
\$5,000 to \$20,000.....	55	60	19.2	18.6	59	53	1.3	1.2	686,228	732,336	0.5	0.5	138,387	119,467	0.7	0.8
\$20,000 to \$100,000.....	131	172	45.8	53.4	347	409	7.6	9.4	6,074,304	8,114,747	4.1	5.8	1,033,926	1,230,390	4.9	8.2
\$100,000 to \$1,000,000.....	58	62	20.3	19.3	648	727	14.2	16.7	18,594,583	21,611,152	12.5	15.5	2,310,184	2,471,175	11.0	16.6
\$1,000,000 and over.....	25	24	8.7	7.5	3,502	3,153	76.7	72.6	122,839,205	108,669,408	82.9	78.1	17,432,442	11,094,789	83.3	74.4
FOUNDRY AND MACHINE-SHOP PRODUCTS.....	409	247	100.0	100.0	7,051	6,002	100.0	100.0	21,405,023	15,608,716	100.0	100.0	11,470,566	8,423,791	100.0	100.0
Less than \$5,000.....	147	55	35.9	22.3	207	66	2.9	1.1	407,401	140,567	1.9	0.9	306,084	96,116	2.7	1.1
\$5,000 to \$20,000.....	146	87	35.7	35.2	712	439	10.1	7.3	1,491,967	921,380	7.0	5.9	997,102	596,687	8.7	7.1
\$20,000 to \$100,000.....	79	74	19.3	30.0	1,406	1,296	19.9	21.6	3,501,744	3,304,431	16.4	21.2	1,933,217	1,908,377	16.9	22.7
\$100,000 and over <sup>1</sup> .....	37	31	9.0	12.6	4,726	4,201	67.0	70.0	16,003,911	11,242,338	74.8	72.0	8,234,163	5,822,611	71.8	69.1
FUR GOODS.....	36	42	100.0	100.0	838	1,056	100.0	100.0	4,207,468	3,775,970	100.0	100.0	1,530,828	1,562,998	100.0	100.0
Less than \$5,000.....	10	12	27.8	28.6	7	15	0.8	1.4	24,991	32,347	0.6	0.9	19,023	23,246	1.2	1.5
\$5,000 to \$20,000.....	8	13	22.2	31.0	35	68	4.2	6.4	94,457	137,162	2.2	3.6	43,125	82,860	2.8	5.3
\$20,000 to \$100,000.....	12	10	33.3	23.8	178	121	21.2	11.5	489,682	487,164	11.6	12.9	270,084	201,083	17.6	12.9
\$100,000 and over <sup>1</sup> .....	6	7	16.7	16.7	618	852	73.7	80.7	3,598,328	3,119,297	85.5	82.6	1,198,596	1,255,209	78.3	80.3
LIQUORS, MALT.....	65	65	100.0	100.0	2,052	1,653	100.0	100.0	14,266,296	10,568,452	100.0	100.0	10,963,095	8,225,745	100.0	100.0
Less than \$5,000.....	4	7	6.2	10.8	5	8	0.2	0.5	16,250	25,144	0.1	0.2	9,245	16,680	0.1	0.2
\$5,000 to \$20,000.....	18	19	27.7	29.2	48	60	2.3	3.6	178,722	233,570	1.3	2.2	107,828	154,011	1.0	1.9
\$20,000 to \$100,000.....	24	23	36.9	35.4	233	203	11.4	12.3	1,166,881	1,055,214	8.2	10.0	769,201	748,299	7.0	9.1
\$100,000 to \$1,000,000.....	15	13	23.1	20.0	545	446	26.6	27.0	3,935,527	3,284,760	27.6	31.1	2,940,906	2,602,325	26.8	31.6
\$1,000,000 and over.....	4	3	6.2	4.6	1,221	936	59.5	56.6	8,968,916	5,969,764	32.9	56.5	7,135,825	4,704,430	65.1	57.2
LUMBER AND TIMBER PRODUCTS.....	453	525	100.0	100.0	20,947	20,704	100.0	100.0	44,674,948	42,352,507	100.0	100.0	21,848,154	21,487,278	100.0	100.0
Less than \$5,000.....	193	284	42.6	54.1	326	411	1.6	2.0	390,115	549,971	0.9	1.3	271,821	379,399	1.2	1.8
\$5,000 to \$20,000.....	107	117	23.6	22.3	904	663	4.3	3.2	1,079,039	1,178,289	2.4	2.8	733,142	702,675	3.4	3.3
\$20,000 to \$100,000.....	78	54	17.2	10.3	1,863	1,464	8.9	7.1	3,461,107	2,541,944	7.7	6.0	1,826,695	1,343,786	8.4	6.3
\$100,000 to \$1,000,000.....	66	62	14.6	11.8	8,388	11,059	40.0	53.4	19,853,505	22,724,546	44.4	53.7	9,335,788	11,787,096	42.7	54.9
\$1,000,000 and over.....	9	8	2.0	1.5	9,466	7,107	45.2	34.3	19,891,182	15,357,757	44.5	36.3	9,680,708	7,274,322	44.3	33.9
PRINTING AND PUBLISHING.....	994	950	100.0	100.0	6,134	5,641	100.0	100.0	20,186,594	15,982,212	100.0	100.0	14,626,901	11,886,107	100.0	100.0
Less than \$5,000.....	560	579	56.3	60.9	574	710	9.4	12.6	1,381,765	1,400,279	6.8	8.8	1,106,450	1,119,358	7.6	9.4
\$5,000 to \$20,000.....	293	249	29.5	26.2	1,055	1,127	17.2	20.0	2,751,472	2,361,608	13.6	14.8	2,195,351	1,850,231	15.0	15.6
\$20,000 to \$100,000.....	111	96	11.2	10.1	1,599	1,496	26.1	26.5	4,449,566	3,933,500	22.0	24.6	3,225,894	2,799,021	22.0	23.5
\$100,000 to \$1,000,000.....	25	26	2.5	2.7	1,500	2,308	24.5	40.9	5,250,639	8,286,825	26.0	51.8	3,746,269	6,117,497	25.6	51.5
\$1,000,000 and over.....	5	.....	0.5	.....	1,406	.....	22.9	.....	6,353,152	.....	31.5	.....	4,352,937	.....	29.8	.....

<sup>1</sup>Includes the group "\$1,000,000 and over."  
<sup>2</sup>Includes the group "less than \$5,000."

<sup>3</sup>Included in the group "\$20,000 to \$100,000."  
<sup>4</sup>Less than one-tenth of 1 per cent.

Six of the industries given in the above table show a decrease during the five-year period in the proportion of establishments having products less than \$5,000 in value, and seven in the proportion of the average number of wage earners employed. The class having products valued at \$100,000 and over shows increases in value of products for all industries. Fur goods and lumber and timber products are the only industries showing decreases in average number of wage earners and value added by manufacture, the decreases in the latter being only 1.7 per cent in average number of wage earners and 2 per cent in value added by manufacture. Eight industries show an increase in number of establishments of this class.

Table 20 presents, for 1914, for all industries combined in each of the cities, except Virginia, having more than 10,000 inhabitants, statistics similar to those given in Table 18 for the state as a whole.

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
<b>DULUTH.....</b>	<b>243</b>	<b>5,538</b>	<b>100.0</b>	<b>\$19,729,283</b>	<b>100.0</b>	<b>\$8,211,614</b>	<b>100.0</b>
Less than \$5,000.....	71	69	1.2	176,336	0.9	117,152	1.4
\$5,000 to \$20,000.....	70	317	5.7	730,407	3.7	455,414	5.5
\$20,000 to \$100,000.....	59	1,048	18.9	2,913,592	14.8	1,367,340	16.7
\$100,000 and over <sup>1</sup> .....	43	4,104	74.1	15,908,948	80.6	6,271,708	76.4
<b>HIBBING.....</b>	<b>27</b>	<b>65</b>	<b>100.0</b>	<b>254,400</b>	<b>100.0</b>	<b>141,983</b>	<b>100.0</b>
Less than \$5,000.....	11	7	10.8	32,600	12.8	20,227	14.2
\$5,000 to \$20,000.....	13	36	55.4	122,100	48.0	72,098	50.8
\$20,000 to \$100,000.....	3	22	33.8	90,700	39.2	49,658	35.0
<b>MANKATO.....</b>	<b>64</b>	<b>755</b>	<b>100.0</b>	<b>4,344,114</b>	<b>100.0</b>	<b>1,127,323</b>	<b>100.0</b>
Less than \$5,000.....	17	13	1.7	40,620	0.9	26,997	2.4
\$5,000 to \$20,000.....	22	114	15.1	229,157	5.3	125,617	11.1
\$20,000 to \$100,000.....	19	340	45.0	967,537	22.3	451,838	40.1
\$100,000 and over <sup>2</sup> .....	6	288	38.1	3,106,800	71.5	522,871	46.4
<b>MINNEAPOLIS.....</b>	<b>1,349</b>	<b>28,295</b>	<b>100.0</b>	<b>187,854,159</b>	<b>100.0</b>	<b>56,654,714</b>	<b>100.0</b>
Less than \$5,000.....	411	386	1.4	1,069,690	0.6	713,872	1.3
\$5,000 to \$20,000.....	461	1,811	6.4	4,702,999	2.5	2,983,425	5.3
\$20,000 to \$100,000.....	309	4,515	16.0	13,227,298	7.0	7,376,522	13.0
\$100,000 to \$1,000,000.....	144	10,641	37.6	43,213,869	23.0	19,310,212	34.1
\$1,000,000 and over.....	24	10,942	38.7	125,640,303	66.9	26,270,683	46.4
<b>ST. CLOUD.....</b>	<b>77</b>	<b>1,429</b>	<b>100.0</b>	<b>2,695,492</b>	<b>100.0</b>	<b>1,407,477</b>	<b>100.0</b>
Less than \$5,000.....	20	38	2.7	49,756	1.8	36,742	2.6
\$5,000 to \$20,000.....	26	158	11.1	269,641	10.0	184,321	13.1
\$20,000 to \$100,000.....	28	528	36.9	1,060,945	39.4	697,902	49.6
\$100,000 to \$1,000,000.....	3	705	49.3	1,315,150	48.8	488,512	34.7
<b>ST. PAUL.....</b>	<b>737</b>	<b>19,483</b>	<b>100.0</b>	<b>68,682,206</b>	<b>100.0</b>	<b>32,863,153</b>	<b>100.0</b>
Less than \$5,000.....	194	152	0.8	469,780	0.7	327,865	1.0
\$5,000 to \$20,000.....	237	926	4.8	2,422,904	3.5	1,530,952	4.7
\$20,000 to \$100,000.....	185	3,042	15.6	8,247,212	12.0	4,246,047	12.9
\$100,000 to \$1,000,000.....	108	11,226	57.6	35,555,233	51.8	15,828,477	48.2
\$1,000,000 and over.....	13	4,137	21.2	21,987,077	32.0	10,929,812	33.3
<b>STILLWATER.....</b>	<b>34</b>	<b>621</b>	<b>100.0</b>	<b>1,876,877</b>	<b>100.0</b>	<b>670,615</b>	<b>100.0</b>
Less than \$5,000.....	12	16	2.6	36,158	1.9	25,006	3.7
\$5,000 to \$20,000.....	10	31	5.0	86,476	4.6	52,766	7.9
\$20,000 to \$100,000.....	8	98	15.8	388,513	20.7	250,465	37.3
\$100,000 to \$1,000,000.....	4	476	76.6	1,366,730	72.8	342,378	51.1
<b>WINONA.....</b>	<b>91</b>	<b>2,070</b>	<b>100.0</b>	<b>14,304,780</b>	<b>100.0</b>	<b>4,266,723</b>	<b>100.0</b>
Less than \$5,000.....	27	28	1.4	73,396	0.5	45,689	1.1
\$5,000 to \$20,000.....	19	84	4.1	197,999	1.4	95,990	2.2
\$20,000 to \$100,000.....	26	413	19.9	1,402,522	9.8	650,829	15.3
\$100,000 to \$1,000,000.....	15	1,152	55.7	3,449,853	24.1	1,623,586	38.1
\$1,000,000 and over.....	4	393	19.0	9,181,010	64.2	1,850,629	43.4

<sup>1</sup> Includes two establishments of \$1,000,000 and over.

<sup>2</sup> Includes one establishment of \$1,000,000 and over.

In the totals for Duluth, Mankato, Minneapolis, St. Cloud, St. Paul, Stillwater, and Winona, the same general condition is found as prevails for all industries combined in the state, namely, a preponderance as to value of products for establishments in the group of \$100,000 and over. In Hibbing, however, the greatest value of products, 48 per cent, appears for the group \$5,000 to \$20,000. Each of the cities shows a considerable proportion of the total number of establishments as having products valued at less than \$20,000, but, with the exception of Hibbing, the combined value of products in this class was relatively small. Of the total number of such establishments for the three leading cities, those in Duluth represented 58 per cent, in Minneapolis 64.6 per cent, and St. Paul 58.9 per cent, whereas the value of their products formed only 4.6 per cent, 3.1 per cent, and 4.2 per cent, respectively, of the total value of products for that class.

Table 21 shows the size of establishments in 1914 as measured by the number of wage earners employed, for all industries combined, for 23 of the most important industries, and for each of the cities (except Virginia) having more than 10,000 inhabitants. Table 22 presents, for 1914, percentages based on the figures in Table 21, and for 1909 similar percentages for all industries combined and for individual industries in the state as a whole.

Of the 5,974 establishments reported for all industries combined, 729, or 12.2 per cent, employed no wage earners. These are small establishments in which the work is done by proprietors or firm members. In some cases they employ a few wage earners for short periods, but the number is so small and the period so short that in computing the average number, as described in the "Explanation of terms," no wage earners could be shown. Printing and publishing reported 246 and tobacco manufactures 108 of these small establishments.

Of the remaining groups those employing 50 or less wage earners constituted 82.6 per cent of all establishments, but gave employment to only 30.8 per cent of the total wage earners. The groups of establishments having more than 50 wage earners represented only 5.2 per cent of the total number of establishments in the state, but gave employment to 64,192 wage earners, or 69.1 per cent of the total. In the steam-railroad repair shops, in the manufacture of boots and shoes, lumber and timber products, paper and wood pulp, and in the slaughtering and meat-packing industry, the majority of wage earners were in establishments giving employment to more than 100 wage earners. In Minneapolis 58 per cent of the total number of wage earners in all industries were in such establishments and in St. Paul, 64 per cent.

Table 21

INDUSTRY AND CITY.	TOTAL.		ESTABLISHMENTS EMPLOYING—							
			No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.	
	Estab-lish-ments.	Wage earners (average number).	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.
All industries.....	5,974	92,834	729	3,604	7,246	1,015	11,158	318	10,238	
Agricultural implements.....	17	872	1	9	22	4	58	1	44	
Boots and shoes.....	14	2,012				3	38	1	25	
Bread and other bakery products.....	443	2,169	77	303	611	52	487	3	95	
Brick, tile, pottery, and other clay products.....	65	1,446		17	48	32	394	10	307	
Butter and cheese.....	807	1,458	36	744	1,089	24	241	2	67	
Carriages and wagons and materials.....	129	854	22	84	189	14	137	4	133	
Cars and general shop construction and repairs by steam-railroad companies.....	38	10,551		1		3	32	12	422	
Clothing, men's, including shirts.....	45	2,463	1	8	23	11	162	15	479	
Confectionery.....	78	843	7	42	103	19	206	5	143	
Copper, tin, and sheet-iron products.....	143	1,087	11	94	235	28	295	6	143	
Flour-mill and gristmill products.....	286	4,564	28	178	403	50	535	18	596	
Foundry and machine-shop products.....	409	7,051	20	229	521	106	1,121	29	960	
Fur goods.....	36	838	3	14	31	12	130	5	155	
Furniture and refrigerators.....	61	1,739	3	14	37	18	245	18	610	
Gas, illuminating and heating.....	47	1,038	3	33	50	9	130			
Hosiery and knit goods.....	13	2,088	1	3	4	5	76	1	33	
Liquors, malt.....	65	2,052	1	27	80	22	266	9	275	
Lumber and timber products.....	453	20,947	17	221	445	107	1,246	36	1,167	
Marble and stone work.....	127	1,579	14	70	134	24	233	11	304	
Paper and wood pulp.....	8	1,345		1	1					
Printing and publishing.....	994	6,134	246	573	1,216	128	1,354	28	952	
Slaughtering and meat packing.....	29	2,587	1	14	29	8	78	2	72	
Tobacco manufactures.....	324	1,261	108	166	330	42	416	6	165	
All other industries.....	1,343	15,851	129	759	1,640	294	3,233	96	3,091	
Total for cities <sup>1</sup> .....	2,622	58,256	351	1,205	2,900	619	6,954	227	7,302	
DULUTH.....	243	5,538	25	108	254	56	608	21	710	
HIBBING.....	27	65	5	19	36	3	29			
MANKATO.....	64	755	7	30	76	17	185	7	291	
MINNEAPOLIS.....	1,349	28,295	188	643	1,506	319	3,567	105	3,363	
St. CLOUD.....	77	1,429	6	33	95	27	348	7	193	
St. PAUL.....	737	19,483	111	310	785	173	1,947	72	2,309	
STILLWATER.....	34	621	1	22	47	6	70	1	28	
WINONA.....	91	2,070	8	40	101	18	200	14	408	

Table 21—Continued.

INDUSTRY AND CITY.	ESTABLISHMENTS EMPLOYING—									
	51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.
All industries.....	151	11,116	98	15,079	31	11,239	21	14,568	7	12,190
Agricultural implements.....			1	150			1	603		
Boots and shoes.....	1	57	7	1,061	2	831				
Bread and other bakery products.....	5	327	1	127	2	522				
Brick, tile, pottery, and other clay products.....	2	162	4	535						
Butter and cheese.....	1	61								
Carriages and wagons and materials.....	4	289	1	106						
Cars and general shop construction and repairs by steam-railroad companies.....	6	437	3	288	5	2,119	5	3,423	3	3,825
Clothing, men's, including shirts.....	3	254	5	893	2	667				
Confectionery.....	4	276	1	115						
Copper, tin, and sheet-iron products.....	3	200	1	214						
Flour-mill and gristmill products.....	7	508	2	297	1	452	2	1,773		
Foundry and machine-shop products.....	12	936	9	1,275	2	802	2	1,436		
Fur goods.....	1		1	187	1	335				
Furniture and refrigerators.....	6	497	2	350						
Gas, illuminating and heating.....	1		1	250			1	608		
Hosiery and knit goods.....	1	88	1	174					1	1,713
Liquors, malt.....	1	89	2	210	2	579	1	553		
Lumber and timber products.....	24	2,527	22	3,305	7	2,444	7	4,990	2	4,823
Marble and stone work.....	6	380	1	176	1	292				
Paper and wood pulp.....	3	266	2	346	2	732				
Printing and publishing.....	11	754	7	1,306			1	552		
Slaughtering and meat packing.....	1	72	1	108	1	399			1	1,829
Tobacco manufactures.....			2	350						
All other industries.....	40	2,936	21	3,256	3	1,065	1	630		
Total for cities <sup>1</sup> .....	113	8,415	69	11,167	20	6,951	15	10,362	3	4,205
DULUTH.....	24	1,768	7	1,094	1	293	1	811		
HIBBING.....										
MANKATO.....	3	203								
MINNEAPOLIS.....	46	3,439	30	4,864	9	2,958	6	4,393	3	4,205
St. CLOUD.....	3	190						603		
St. PAUL.....	27	1,975	28	4,598	9	3,314	7	4,555		
STILLWATER.....	2	172	2	304						
WINONA.....	8	668	2	307	1	386				

<sup>1</sup> Excludes Virginia, to avoid disclosure of individual operations.

Table 22

INDUSTRY AND CITY.	Cen- sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.								INDUSTRY AND CITY.	Cen- sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000			1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
All industries.....	1914 1909	7.8 8.2	12.0 11.4	11.0 11.4	12.0 12.4	16.2 17.9	12.1 13.5	15.7 16.4	13.1 8.9	Gas, illuminating and heating..	1914 1909	4.8 6.2	12.5 6.4	.....	.....	24.1 27.7	.....	58.6 59.7	.....
Agricultural implements.....	1914 1909	2.5 0.7	6.1 9.3	5.0 .....	.....	17.2 .....	.....	69.2 .....	.....	Hosiery and knit goods.....	1914 1909	0.2 0.5	3.6 3.4	1.6 8.3	4.2 .....	8.3 25.2	.....	.....	82.0 62.6
Boots and shoes.....	1914 1909	.....	1.9 0.4	1.2 0.6	2.8 2.9	52.7 15.1	41.3 9.0	.....	.....	Liquors, malt.....	1914 1909	3.9 5.0	13.0 16.6	13.4 7.6	4.3 14.2	10.2 24.2	28.2 .....	26.9 32.4	.....
Bread and other bakery products	1914 1909	28.2 28.7	22.4 22.5	4.4 9.4	15.1 6.8	5.9 17.8	24.1 14.8	.....	.....	Lumber and timber products..	1914 1909	2.1 3.3	5.9 3.1	5.6 4.5	12.1 10.3	15.8 20.0	11.7 11.7	23.8 23.1	23.0 24.0
Brick, tile, pottery, and other clay products.	1914 1909	3.3 5.1	27.2 32.1	21.2 24.4	11.2 18.0	37.0 .....	.....	.....	.....	Marble and stone work.....	1914 1909	8.5 7.2	18.6 17.5	19.3 27.6	24.1 16.3	11.1 31.3	18.5 .....	.....	.....
Butter and cheese.....	1914 1909	74.7 85.9	16.5 9.4	4.6 4.7	4.2 .....	.....	.....	.....	.....	Paper and wood pulp.....	1914 1909	0.1 .....	.....	.....	19.8 33.8	25.7 52.6	54.4 .....	.....	.....
Carriages and wagons and ma- terials.	1914 1909	22.1 23.0	16.0 15.3	15.6 23.2	33.8 25.5	12.4 13.0	.....	.....	.....	Printing and publishing.....	1914 1909	19.8 22.5	22.1 21.2	15.5 20.7	12.3 13.7	21.3 12.7	.....	9.0 9.2	.....
Cars and general shop construc- tion and repairs by steam- railroad companies.	1914 1909	( <sup>1</sup> ) 0.1	0.3 0.2	4.0 2.0	4.1 4.7	2.7 7.1	20.1 32.8	32.4 37.5	36.3 15.5	Slaughtering and meat packing.	1914 1909	1.1 2.7	3.0 2.3	2.8 8.6	2.8 3.1	4.2 .....	15.4 15.8	.....	70.7 67.5
Clothing, men's, including shirts	1914 1909	0.9 0.7	6.2 10.9	19.4 13.0	10.3 17.0	36.2 23.1	27.0 35.2	.....	.....	Tobacco manufactures.....	1914 1909	26.2 26.3	33.0 20.5	13.1 23.8	.....	27.8 4.6	.....	.....	.....
Confectionery.....	1914 1909	12.2 8.3	24.4 7.8	17.0 38.6	32.7 27.4	13.6 17.9	.....	.....	.....	All other industries.....	1914 1909	10.3 9.3	20.4 22.0	19.5 15.7	18.5 17.7	20.5 22.0	6.7 9.9	4.0 3.4	.....
Copper, tin, and sheet-iron products.	1914 1909	21.6 16.4	27.1 32.3	13.2 22.8	18.4 8.5	19.7 20.1	.....	.....	.....	Total for cities <sup>2</sup> .....	1914	5.0	11.9	12.5	14.4	19.2	11.9	17.8	7.2
Flour-mill and gristmill prod- ucts.	1914 1909	8.8 11.3	11.7 11.7	13.1 12.0	11.1 10.8	6.5 9.1	9.9 11.1	38.8 34.0	.....	DULUTH.....	1914	4.6	11.0	12.8	31.9	19.8	5.3	14.6	.....
Foundry and machine-shop products.	1914 1909	7.4 4.7	15.9 13.2	13.6 13.7	13.3 17.3	18.1 21.4	11.4 9.8	20.4 19.8	.....	HIBBING.....	1914	55.4	44.6	.....	.....	.....	.....	.....	.....
Fur goods.....	1914 1909	3.7 2.6	15.5 13.6	18.5 16.2	.....	22.3 27.1	40.0 40.5	.....	.....	MINNEAPOLIS.....	1914	10.1	24.5	38.5	26.9	.....	.....	.....	.....
Furniture and refrigerators.....	1914 1909	2.1 2.8	14.1 12.4	35.1 33.5	28.6 18.2	20.1 33.0	.....	.....	.....	ST. CLOUD.....	1914	5.3	12.6	11.9	12.2	17.2	10.4	15.5	14.9
										ST. PAUL.....	1914	6.6	24.4	13.5	13.3	.....	.....	42.2	.....
										STILLWATER.....	1914	4.0	10.0	11.8	10.1	23.6	17.0	23.4	.....
										WINONA.....	1914	7.6	11.3	4.5	27.7	49.0	.....	.....	.....
												4.9	9.7	19.7	32.3	14.8	18.6	.....	.....

<sup>1</sup> Less than one-tenth of 1 per cent.<sup>2</sup> Excludes Virginia, to avoid disclosure of individual operations.

**Engines and power.**—Table 23 shows, for 1914, 1909, and 1904, for all industries combined, the number and horsepower of engines or motors employed in generating power (including electric motors operated by

purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

Table 23.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1914	1909	1904	Amount.			Per cent distribution.		
				1914	1909	1904	1914	1909	1904
Primary power, total.....	13,463	8,679	3,265	358,737	297,670	220,934	100.0	100.0	100.0
Owned.....	3,462	3,792	3,265	286,939	266,546	211,070	80.0	89.5	95.5
Steam engines and turbines <sup>1</sup> .....	2,190	2,544	2,378	208,144	199,802	168,115	57.5	67.1	76.1
Internal-combustion engines.....	959	877	629	7,454	7,174	4,710	2.1	2.4	2.1
Water wheels, turbines, and motors.....	313	371	258	73,341	59,570	38,245	20.4	20.0	17.3
Rented.....	10,001	4,887	( <sup>2</sup> )	71,798	31,124	9,864	20.0	10.5	4.5
Electric.....	10,001	4,887	( <sup>2</sup> )	71,224	30,297	8,594	19.8	10.2	3.9
Other.....	.....	.....	.....	574	827	1,270	0.2	0.3	0.6
Electric.....	12,778	6,791	.....	121,018	52,212	14,427	100.0	100.0	100.0
Rented.....	10,001	4,887	( <sup>2</sup> )	71,224	30,297	8,594	58.9	58.0	59.6
Generated by establishments reporting.....	2,777	1,904	635	49,794	21,915	5,833	41.1	42.0	40.4

<sup>1</sup> Figures for horsepower include for 1909 and 1904 the amounts reported under the head of "other" owned power.<sup>2</sup> Not reported.

This table shows an increase in primary power amounting to 61,067 horsepower, or 20.5 per cent, from 1909 to 1914, due, in part, to the increase in rented power. The use of rented power, almost

wholly electric, has greatly increased since 1904, when 9,864 horsepower of this character, representing 4.5 per cent of the total primary power, was reported. In 1909 the amount of such power had increased to

31,124 horsepower, or 10.5 per cent of the total, and in 1914 to 71,798 horsepower, or 20 per cent of the total. The increase in the use of electric motors run by current generated within the same establishment has kept pace with that in rented power. For all classes of owned power there was a decided increase.

Fuel.—Closely related to the kind of power employed in manufactures is that of the fuel consumed

in generating this power or otherwise used in manufacturing processes.

Table 24 gives, for 1914, the quantity of each kind of fuel used, for which data were obtained, for all industries combined and for certain selected industries in the state as a whole, and for all industries combined in each city for which separate statistics can be given.

INDUSTRY AND CITY.	COAL.		Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).			
All industries.....	42,659	1,400,702	101,018	303,768	84,463
Agricultural implements.....	8	5,707	1,407	369	40
Artificial stone products.....	33	3,692	51	455	.....
Automobiles, including bodies and parts.....	52	6,276	4	207	662
Boots and shoes.....	915	3,380	.....	3	535
Boxes and cartons, paper.....	3	1,077	3	.....	1,136
Brass, bronze, and copper products.....	15	128	1,880	600	.....
Bread and other bakery products.....	4,442	12,085	4,224	2,377	9,932
Brick, tile, pottery and other clay products.....	588	111,618	252	2,783	.....
Butter and cheese.....	1,277	40,905	497	1,326	60
Canning and preserving.....	24	2,803	39	30	.....
Carriages and wagons and materials.....	130	6,332	320	2,109	.....
Cars and general shop construction and repairs by steam-railroad companies.....	600	195,528	1,975	9,760	1,941
Coffee, roasting and grinding.....	224	1,984	.....	7	5,990
Confectionery.....	308	3,943	656	4	6,180
Cooperage and wooden goods.....	164	3,215	150	19	.....
Copper, tin, and sheet-iron products.....	412	2,234	78	109	3,547
Flour-mill and gristmill products.....	3,017	249,002	54	1,601	.....
Food preparations, not elsewhere specified.....	1,034	3,016	.....	2	3,319
Foundry and machine-shop products.....	1,238	38,722	20,141	6,647	6,275
Furniture and refrigerators.....	925	13,661	.....	572	.....
Gas, illuminating and heating.....	90	130,552	26,564	267,451	5,018
Hosiery and knit goods.....	11	5,308	.....	.....	457
Lime.....	.....	7,605	.....	.....	.....
Liquors, malt.....	3,017	59,594	67	26	408
Lumber and timber products.....	365	20,156	.....	774	424
Malt.....	6,517	28,053	.....	30	368
Marble and stone work.....	49	9,262	171	.....	184
Mattresses and spring beds.....	170	1,572	.....	.....	.....
Millinery and lace goods.....	13	2,194	.....	.....	117
Oil, linseed.....	3,520	23,452	.....	.....	.....
Paint and varnish.....	13	2,729	68	2	825
Paper and wood pulp.....	.....	97,829	.....	.....	.....
Patent medicines and compounds.....	196	3,276	12	49	97
Printing and publishing.....	2,459	8,679	208	836	25,211
Slaughtering and meat packing.....	8	70,836	.....	62	3,306
All other industries.....	10,827	224,297	42,158	4,796	9,223
Total for cities <sup>1</sup> .....	33,563	845,903	91,320	281,276	77,992
DULUTH.....	12,197	188,207	43,474	3,274	12,319
HIBBING.....	50	206	.....	.....	100
MANKATO.....	155	22,275	71	107	728
MINNEAPOLIS.....	14,608	362,891	10,086	166,570	42,395
ST. CLOUD.....	181	10,116	866	72	300
ST. PAUL.....	5,034	207,371	35,242	110,721	19,087
STILLWATER.....	88	4,582	672	31	184
WINONA.....	1,250	50,255	909	501	2,879

<sup>1</sup> Excludes Virginia, to avoid disclosure of individual operations.

### SPECIAL STATISTICS.

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantities and cost of materials, the quantity and value of products, and other information for securing which no provision is made on the general schedule. Certain data of this character for four important industries in Minnesota are here presented. Statistics for power laundries are also given.

Flour-mill and gristmill products.—There were 286 establishments reporting flour-mill and gristmill products in 1914, as compared with 322 establishments in 1909. Of the number reporting in 1914, 240 manufactured wheat flour to some extent. There were 34 establishments each of which reported the production of 100,000 barrels or more, making an aggregate of 24,762,693 barrels. Of the total output of wheat flour in the United States, Minnesota produced 23.3 per cent in 1914 and 21.7 per cent of the total value, as compared with 21.5 and 20.8 per cent, respectively, in 1909. The following table gives the quantity and value of products for the last three census years:

	1914	1909	1904
Total value.....	\$148,243,708	\$130,136,129	\$122,059,123
Wheat flour:			
Barrels.....	27,132,155	22,737,404	23,871,227
Value.....	\$117,988,654	\$114,185,351	\$103,401,447
Rye flour:			
Barrels.....	579,648	229,051	132,071
Value.....	\$1,991,445	\$936,006	\$543,505
Buckwheat flour:			
Pounds.....	1,953,928	990,387	2,247,420
Value.....	\$63,006	\$33,047	\$62,513
Barley meal:			
Pounds.....	.....	432,900	160,000
Value.....	.....	\$5,496	\$3,200
Corn meal and corn flour:			
Barrels.....	53,845	66,705	66,018
Value.....	\$185,008	\$204,863	\$154,243
Hominy and grits:			
Pounds.....	1,483,329	14,234,660	.....
Value.....	\$16,303	\$210,022	.....
Oatmeal:			
Pounds.....	150,272	.....	.....
Value.....	\$1,762	.....	.....
Bran and middlings:			
Tons.....	1,051,260	.....	.....
Value.....	\$22,390,532	.....	.....
Feed and offal:			
Tons.....	219,263	1,080,833	1,131,742
Value.....	\$5,517,795	\$23,112,813	\$17,689,148
Breakfast foods:			
Pounds.....	53,421	.....	.....
Value.....	\$1,967	.....	.....
All other cereal products, value.....	\$41,860	\$276,914	.....
All other products, value.....	\$45,286	\$171,557	\$205,067



Measured by value of products, wheat flour constituted 79.6 per cent of the total value of all products reported for the mills of the state in 1914, 82.1 per cent in 1909, and 84.7 per cent in 1904. The quantity of wheat flour manufactured increased 19.3 per cent, rye flour 152.4 per cent, and buckwheat flour 97.3 per cent during the period from 1909 to 1914, while the quantity of hominy and grits produced decreased 89.6 per cent and corn meal 19.3 per cent.

In 1914 the mills of the state were equipped with 4,021 stands of rolls, 89 runs of stone, and 177 attrition mills. Eleven establishments manufactured their own barrels and three made sacks.

**Slaughtering and meat packing.**—The statistics given in Table 26 represent only wholesale slaughtering and meat packing. The table shows, for 1914, 1909, and 1904, the quantity and value of the principal products. The total of "all other products" includes pickled beef, cured, canned sausage, meat puddings, scrapple, head cheese, compound lard, and lard substitutes, oleo and other oil, tallow, soap stock, oleo stearin, oleomargarine, hoofs and horns, soap, sausage casings, and goat, kid, and pig skins.

Table 26	1914	1909	1904
Total value.....	\$47,535,803	\$25,608,934	\$17,526,707
Fresh meat:			
Beef—			
Pounds.....	76,992,124	59,276,609	55,358,469
Value.....	\$7,714,340	\$3,187,527	\$2,850,777
Veal—			
Pounds.....	6,987,360	5,765,536	2,120,934
Value.....	\$875,264	\$386,210	\$132,450
Mutton and lamb—			
Pounds.....	8,511,931	5,655,124	3,283,313
Value.....	\$858,878	\$480,143	\$526,449
Pork—			
Pounds.....	110,312,690	45,709,115	43,542,306
Value.....	\$11,808,814	\$4,336,448	\$3,204,733
Edible offal and all other fresh meat—			
Pounds.....	6,539,309	727,938	794,420
Value.....	\$534,357	\$113,628	\$72,200
Pork, pickled, and other cured:			
Pounds.....	115,033,007	82,480,987	71,741,762
Value.....	\$16,430,999	\$9,253,591	\$6,159,220
Sausage:			
Pounds.....	8,845,380	7,632,698	3,151,961
Value.....	\$1,114,112	\$696,017	\$696,695
Lard:			
Pounds.....	40,311,585	21,429,517	26,435,556
Value.....	\$4,263,173	\$2,581,501	\$1,933,587
Fertilizers and fertilizer materials:			
Tons.....	7,610	12,075	7,543
Value.....	\$223,358	\$314,660	\$154,867
Hides and pelts:			
Cattle—			
Number.....	166,903		
Pounds.....	9,453,992		
Value.....	\$1,624,345	160,948	125,784
Calf—			
Number.....	51,221	7,240,972	6,587,904
Pounds.....	573,867	\$887,185	\$654,461
Value.....	\$118,622		
Sheep—			
Number.....	196,086	132,574	188,791
Value.....	\$202,227	\$146,473	\$187,802
All other products, value.....	\$1,767,314	\$3,225,551	\$953,466

In 1914 there were 166,903 beeves slaughtered by the wholesale slaughtering and meat-packing estab-

lishments of the state, an increase of 41,051, or 32.6 per cent, over the number for 1909. The number of all other animals slaughtered increased from 1,252,890 to 1,837,785, or 46.7 per cent.

**Butter and cheese.**—The following table gives the production of butter and cheese in 1914, 1909, and 1904:

Table 27	1914	1909	1904
Total value.....	\$33,746,396	\$25,287,462	\$12,871,129
Butter:			
Pounds.....	111,107,208	88,842,846	62,122,554
Value.....	\$30,903,702	\$24,581,058	\$12,297,169
Packed solid—			
Pounds.....	94,775,407	81,104,848	58,542,838
Value.....	\$26,170,426	\$22,359,427	\$11,549,845
Prints or rolls—			
Pounds.....	16,331,955	7,737,998	3,579,716
Value.....	\$4,733,276	\$2,221,631	\$747,324
Cream sold:			
Pounds.....	3,401,449	1,338,833	1,345,769
Value.....	\$293,897	\$146,867	\$93,703
Cheese:			
Pounds.....	4,016,570	2,735,883	3,090,955
Value.....	\$496,215	\$374,716	\$307,117
Full cream—			
Pounds.....	3,350,598	2,695,883	2,935,934
Value.....	\$472,850	\$371,516	\$294,339
Part cream—			
Pounds.....	665,972	40,000	
Value.....	\$23,365	\$3,200	
Other kinds—			
Pounds.....	(1)		124,071
Value.....	(1)		\$12,778
All other butter, cheese, and condensed-milk factory products, value <sup>2</sup> .....	\$1,616,396	\$55,253	\$134,012
All other products, value.....	\$436,186	\$129,568	\$39,128

<sup>1</sup> Included in part-cream cheese.

<sup>2</sup> Includes whey, casein, skimmed milk sold, and buttermilk.

There was an increase of 48,984,654 pounds, or 78.9 per cent, in the quantity and \$18,606,533, or 151.3 per cent, in the value of the butter manufactured in the factories of the state during the decade ending with 1914. Of the total quantity of butter manufactured in 1914, 85.3 per cent was packed solid and 14.7 per cent was put up in prints or rolls. The percentage of increase shown for "prints or rolls," 356.2, is due to the demand during recent years for butter put up in packages or cartons. The figures for this period show a continued reduction in the amount of milk used as material and a corresponding increase in the quantity of cream.

The quantity of cheese produced in 1914 was 4,016,570 pounds, valued at \$496,215, an increase of 29.9 per cent and 61.6 per cent, respectively, over 1904.

The manufacture of condensed milk was not reported at the census of 1909. Statistics for the one establishment returned in 1914, are included in the group "all other industries," in order to avoid the disclosure of individual operations.

**Printing and publishing.**—The number and aggregate circulation per issue of the various classes of publications in Minnesota in 1914, 1909, and 1904 are shown in Table 28.

For the five-year period from 1909 to 1914 the total number of publications increased by 8, and the aggregate circulation per issue increased 1,156,913, or 36.4 per cent. There was an increase in the circulation of all issues, except those included in "all other classes," which consists of 10 semimonthly, 2 bimonthly, and 3 quarterly publications, and 1 semiannual.

Table 28 PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1914	1909	1904	1914	1909	1904
Total.....	766	758	798	4,333,613	3,176,700	3,106,399
Daily.....	51	42	51	655,070	476,252	460,811
Sunday.....	7	7	10	369,912	237,205	190,304
Semiweekly.....	7	8	7	117,374	37,062	63,396
Weekly.....	620	614	634	1,790,818	1,269,856	1,151,145
Monthly.....	65	68	71	1,122,249	824,955	956,696
All other classes.....	16	19	25	278,190	331,370	284,047

The circulation of the daily papers increased 178,818, or 37.5 per cent, from 1909 to 1914. The weekly circulation, which increased to 1,790,818 copies per issue, constituted 41.3 per cent of the aggregate average circulation of all publications in 1914. Monthly publications show an increase in circulation during the later semidecade from 824,955 to 1,122,249, a gain of 297,294, or 36 per cent.

Table 29 gives the number and circulation of the publications printed in foreign languages for 1914 and 1909.

Table 29 PERIOD OF ISSUE.	Cen- sus year.	TOTAL.		ENGLISH.		IN FOREIGN LANGUAGES.	
		Num- ber.	Aggregate circula- tion per issue.	Num- ber.	Aggregate circula- tion per issue.	Num- ber.	Aggregate circula- tion per issue.
Total.....	1914 1909	766 758	4,333,613 3,176,700	691 685	3,756,218 2,635,711	75 73	577,395 540,989
Daily and Sunday.....	1914 1909	58 49	1,024,982 713,457	51 46	953,519 688,752	7 3	71,463 24,706
Weekly.....	1914 1909	627 622	1,908,192 1,306,918	581 578	1,552,262 945,129	246 244	355,930 361,789
Monthly.....	1914 1909	65 68	1,122,249 824,955	49 51	1,045,037 747,955	16 17	77,212 77,060
All other classes.....	1914 1909	16 19	278,190 331,370	10 10	205,400 253,875	6 9	72,790 77,495

<sup>1</sup> Includes 7 semiweekly papers.

<sup>2</sup> Includes 1 semiweekly.

<sup>3</sup> Includes 8 semiweekly papers.

Of the 766 publications of all kinds in 1914, 75 were printed in foreign languages, as compared with 73 in 1909. Of these, 45 were in Scandinavian, 15 in German, 4 in Finnish, 3 each in Norwegian-and-English and German-and-English, and 1 each in French, Polish, Slovenian, Yiddish, and English-and-Swedish. The Scandinavian publications had the largest circulation of those printed in foreign languages; in 1914 this class reported a circulation of 327,732, a gain of 16,521, or 5.3 per cent, over 1909:

German publications rank second, with a circulation of 190,913, which is a slight decrease from the circulation reported for 1909. The total circulation of newspapers and periodicals printed in foreign languages was 577,395 in 1914, as compared with 540,989 in 1909, a gain of 36,406, or 6.7 per cent.

**Laundries.**—Statistics for power laundries are not included in the general tables or in the totals for manufacturing industries. Table 30, however, summarizes these statistics for Minnesota for 1914 and 1909.

Table 30	POWER LAUNDRIES.		
	Number or amount.		Per cent of in- crease, 1909- 1914.
	1914	1909	
Number of establishments.....	188	158	19.0
Persons engaged.....	4,024	3,338	20.6
Proprietors and firm members.....	203	187	8.6
Salaried employees.....	327	235	39.1
Wage earners (average number).....	3,494	2,916	19.8
Primary horsepower.....	4,264	2,919	46.1
Capital.....	\$2,708,038	\$1,821,191	48.7
Salaries and wages.....	1,972,943	1,343,174	46.9
Salaries.....	332,555	210,323	58.1
Wages.....	1,640,388	1,132,851	44.8
Paid for contract work.....	17,361	3,058	467.7
Rent and taxes (including internal revenue).....	147,110	95,253	54.4
Cost of materials.....	855,443	514,354	66.3
Amount received for work done.....	4,100,464	2,855,738	43.6

In both 1914 and 1909 Minnesota ranked eleventh among the states in amount received for work done and in number of persons engaged in the industry. Of the 188 laundries reported for the state in 1914, 104 were operated by individuals and 39 by corporations.

Table 31 shows for 1914 and 1909 the number of wage earners employed in the laundries on the 15th day of each month, or the nearest representative day, and the percentage which this number represents of the greatest number employed in any month of the same year.

Table 31	WAGE EARNERS.			
	Number.		Per cent of maxi- mum.	
	1914	1909	1914	1909
January.....	3,395	2,715	93.9	87.3
February.....	3,371	2,725	93.3	87.6
March.....	3,405	2,729	94.2	87.7
April.....	3,464	2,816	95.8	90.5
May.....	3,505	2,896	97.0	93.1
June.....	3,580	2,996	99.0	96.3
July.....	3,615	3,101	100.0	99.7
August.....	3,595	3,111	99.4	100.0
September.....	3,574	3,085	98.9	99.2
October.....	3,510	2,956	97.1	95.0
November.....	3,474	2,925	96.1	94.0
December.....	3,444	2,939	95.3	94.6

Table 32 gives statistics as to kinds and amounts of power used in the laundries of the state in 1914 and 1909, together with the percentages of increase for the five-year period.

POWER.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.		
	1914	1909	Amount.		Per cent of increase, <sup>1</sup> 1909-1914.
			1914	1909	
Primary power, total.....	340	204	4,264	2,919	46.1
Owned.....	123	128	3,322	2,610	27.3
Steam.....	118	115	3,230	2,530	27.7
Internal combustion.....	5	13	92	80	.....
Rented.....	217	76	942	309	204.9
Electric.....	217	76	942	304	209.9
Other.....	.....	.....	.....	5	.....
Electric—Generated in establishments reporting.....	289	.....	864	.....	.....

<sup>1</sup> Per cent not shown where base is less than 100.

<sup>2</sup> Figures for horsepower include for 1909 the amounts reported under the head of "other" owned power.

Table 33 shows the kinds and quantities of fuel used in the laundries, as reported at the censuses of 1914 and 1909, with the percentages of increase or decrease.

KIND.	Unit.	QUANTITY.		Per cent of increase, <sup>1</sup> 1909-1914.
		1914	1909	
Anthracite coal.....	Tons, 2,240 lbs.....	2,148	2,287	-6.1
Bituminous coal.....	Tons, 2,000 lbs.....	40,549	28,131	44.1
Coke.....	Tons, 2,000 lbs.....	12	252	-95.2
Oil.....	Barrels.....	295	424	-30.4
Gas.....	1,000 cubic feet.....	6,786	16,832	-59.7

<sup>1</sup> A minus sign (—) denotes decrease.

### GENERAL TABLES.

Table 34 gives, for 1914, 1909, and 1904, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products, for selected industries in the state and in cities having 50,000 inhabitants or more; and for the cities having from 10,000 to 50,000 inhabitants, similar data for all industries combined.

Table 35 presents, for 1914, in the state as a whole and in cities with 50,000 inhabitants or more, statistics in detail for each industry that can be shown without the disclosure of individual operations; and for the cities having from 10,000 to 50,000 inhabitants, for all industries combined.

TABLE 34.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse power.	Expressed in thousands.			INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse power.	Expressed in thousands.		
					Wages.	Cost of ma- terials.	Value of prod- ucts.						Wages.	Cost of ma- terials.	Value of prod- ucts.
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.															
All industries.....	1914	5,974	92,834	358,737	\$58,507	\$336,849	\$493,354	Canning and preserving...	1914	435	436	1,055	\$140	\$806	\$1,284
	1909	5,561	84,767	297,670	47,471	281,622	409,420		1909	532	415	692	135	895	1,343
	1904	4,756	69,636	220,934	35,843	210,554	307,858		1904	31	263	540	89	435	778
Agricultural implements..	1914	17	872	2,489	707	1,474	3,813	Carriages and wagons and materials.	1914	129	854	2,004	568	1,030	2,206
	1909	17	1,014	1,468	632	1,090	3,014		1909	134	868	1,657	529	983	2,175
	1904	21	1,176	2,527	637	1,090	2,885		1904	141	923	1,825	454	867	1,868
Artificial stone products..	1914	191	738	1,129	474	675	1,618	Cars and general shop construction and repairs by steam-railroad companies.	1914	38	10,551	15,678	7,544	6,327	14,504
	1909	123	653	596	380	379	1,090		1909	28	8,232	10,680	5,586	6,494	12,631
	1904	32	265	77	151	137	384		1904	24	5,767	4,597	3,300	3,716	7,380
Automobiles, including bodies and parts.	1914	24	486	446	335	635	1,230	Clothing, men's, including shirts.	1914	45	2,468	590	990	3,640	5,616
	1909	11	130	331	75	253	429		1909	41	2,156	421	722	2,814	4,459
	1904	.....	.....	.....	.....	.....	.....		1904	30	1,496	315	469	1,599	2,655
Awnings, tents, and sails..	1914	17	110	53	63	251	444	Clothing, women's.....	1914	8	94	23	45	93	209
	1909	16	110	37	54	226	395		1909	11	203	26	110	110	305
	1904	14	100	35	44	163	284		1904	10	343	83	95	141	317
Boots and shoes.....	1914	14	2,012	1,159	1,121	3,980	5,918	Coffee, roasting and grind- ing.	1914	11	313	924	155	3,819	4,729
	1909	18	2,664	1,411	1,290	4,935	7,568		1909	12	342	550	123	2,353	2,907
	1904	17	1,714	883	719	2,632	4,170		1904	13	188	557	66	1,373	1,816
Boxes and cartons, paper.	1914	13	650	625	325	550	1,322	Confectionery.....	1914	78	843	866	356	1,729	3,039
	1909	11	595	453	236	481	1,023		1909	39	715	505	241	1,370	2,346
	1904	6	320	87	119	223	456		1904	27	646	417	202	919	1,674
Brass, bronze, and copper products.	1914	9	99	154	68	242	359	Cooperage and wooden goods, not elsewhere specified.	1914	28	787	2,377	499	1,277	2,227
	1909	7	33	37	22	91	139		1909	32	850	1,755	444	1,423	2,187
	1904	.....	.....	.....	.....	.....	.....		1904	32	739	932	374	1,204	1,914
Bread and other bakery products.	1914	443	2,169	2,289	1,308	4,794	8,724	Copper, tin, and sheet- iron products.	1914	143	1,087	611	720	1,665	3,398
	1909	403	1,696	955	972	3,804	6,785		1909	114	1,081	507	649	1,447	2,705
	1904	272	1,347	762	670	2,658	4,620		1904	72	880	473	446	849	1,851
Brick, tile, pottery, and other clay products.	1914	86	1,446	8,452	917	868	2,583	Dairymen's, poultrymen's, and apiarists' supplies.	1914	7	61	228	36	91	219
	1909	85	1,450	7,144	786	607	2,221		1909	3	46	80	22	48	117
	1904	105	1,306	4,904	652	485	1,700		1904	.....	.....	.....	.....	.....	.....
Brooms.....	1914	19	99	59	61	137	266	Electrical machinery, ap- paratus, and supplies.	1914	17	236	393	161	348	749
	1909	19	91	43	60	139	270		1909	13	187	205	101	220	526
	1904	.....	.....	.....	.....	.....	.....		1904	15	170	140	103	187	424
Butter and cheese.....	1914	807	1,458	12,865	1,167	30,769	33,746	Flour-mill and gristmill products.	1914	286	4,564	100,638	3,407	127,315	148,244
	1909	784	1,184	11,874	829	22,707	25,287		1909	322	4,345	93,849	2,782	124,217	139,136
	1904	771	1,041	11,511	634	11,140	12,871		1904	363	4,481	86,093	2,651	109,061	122,059

<sup>1</sup> The figures can not be shown without disclosing individual operations.

<sup>2</sup> Includes "sand-lime brick."

<sup>3</sup> Not reported separately.

<sup>4</sup> Includes "pickles, preserves, and sauces."

<sup>5</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>6</sup> Includes "stamped and enameled ware" and "tinware, not elsewhere specified."

TABLE 34.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse power.	Wages.	Cost of ma- terials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse power.	Wages.	Cost of ma- terials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
Food preparations, not elsewhere specified.	1914	27	426	1,369	\$249	\$3,049	\$4,979	Mineral and soda waters..	1914	128	309	472	\$201	\$527	\$1,266
	1909	30	405	1,272	205	2,824	4,207		1909	114	246	282	140	318	868
	1904	16	271	337	109	925	1,591		1904	86	188	205	90	179	572
Foundry and machine- shop products.	1914	1409	7,051	15,692	5,193	9,934	21,405	Musical instruments, pi- anos and organs.	1914	4	108	249	79	156	315
	1909	247	6,002	9,966	3,904	7,185	15,609		1909	5	143	153	100	120	294
	1904	188	4,022	5,735	2,416	4,415	9,509		1904	3	23	26	16	28	55
Fur goods:.....	1914	36	838	372	549	2,677	4,207	Oil, linseed:.....	1914	6	400	4,467	326	11,279	12,357
	1909	42	1,056	283	560	2,213	3,776		1909	6	374	3,321	250	9,685	11,037
	1904	35	1,236	165	497	2,012	3,379		1904	5	353	2,075	204	6,089	7,018
Furnishing goods, men's..	1914	26	142	37	42	327	456	Optical goods:.....	1914	8	54	19	38	75	219
	1909	10	182	54	49	251	420		1909	6	25	8	15	21	82
	1904	4	53	11	13	90	135		1904	4	22	12	13	32	79
Furniture and refrigera- tors.	1914	61	1,739	4,212	1,123	1,758	4,215	Paint and varnish.....	1914	15	144	1,065	98	1,061	1,684
	1909	57	1,695	2,782	930	1,900	3,759		1909	514	164	420	101	889	1,489
	1904	54	1,551	2,396	734	1,107	2,716		1904	5	78	222	37	454	709
Gas, illuminating and heating.	1914	47	1,038	4,670	646	1,681	4,159	Paper and wood pulp....	1914	8	1,345	53,259	983	3,245	5,573
	1909	42	848	3,538	292	820	2,874		1909	9	607	23,440	361	1,438	2,385
	1904	16	575	1,238	268	624	2,033		1904	4	396	7,153	234	677	1,146
Glass, cutting, staining, and ornamenting.	1914	15	153	71	89	95	283	Paper goods, not else- where specified.	1914	76	112	55	52	105	240
	1909	10	131	24	84	82	237		1909	8	87	47	27	143	252
	1904	6	99	22	52	48	137		1904	4	12	4	5	3	13
Grease and tallow, not in- cluding lubricating greases.	1914	11	39	209	30	130	208	Patent medicines and compounds and drug- gists' preparations.	1914	99	613	945	285	2,341	4,879
	1909	8	29	287	25	104	178		1909	101	475	741	188	1,690	4,412
	1904	9	26	142	16	94	143		1904	77	344	545	136	1,340	3,136
Hats and caps, other than felt, straw, or wool.	1914	9	127	31	53	160	241	Photo-engraving:.....	1914	11	234	84	227	91	606
	1909	7	58	8	30	51	113		1909	9	168	45	157	39	350
	1904	7	76	9	32	57	115		1904	7	102	25	66	23	145
Hosiery and knit goods...	1914	13	2,088	2,149	892	2,526	4,665	Printing and publishing..	1914	994	6,134	7,101	4,259	5,560	20,187
	1909	10	1,052	853	348	1,086	2,243		1909	950	5,641	5,765	3,507	4,096	15,982
	1904	10	615	316	190	626	1,203		1904	919	4,613	3,958	2,633	2,787	11,564
Jewelry.....	1914	25	154	51	115	103	308	Shipbuilding, including boat building.	1914	30	125	352	89	157	317
	1909	17	119	46	82	57	255		1909	33	209	419	139	158	377
	1904	9	75	21	47	53	151		1904	28	224	302	133	102	342
Leather goods.....	1914	95	750	460	489	1,688	2,806	Signs and advertising novelties.	1914	28	238	84	158	287	593
	1909	42	870	418	448	1,686	2,821		1909	22	116	25	86	96	313
	1904	35	672	327	344	1,115	1,951		1904						
Lime.....	1914	5	223	328	127	139	342	Slaughtering and meat packing.	1914	29	2,587	5,260	1,817	41,736	47,710
	1909	8	203	319	101	143	311		1909	30	1,921	4,579	1,129	22,156	25,754
	1904	8	128	120	76	128	289		1904	29	1,376	1,669	788	15,104	17,589
Liquors, malt.....	1914	65	2,052	9,201	1,750	3,303	14,266	Soap.....	1914	6	46	185	24	463	614
	1909	65	1,653	6,912	954	2,343	10,568		1909	6	63	148	28	332	495
	1904	76	1,035	6,079	670	1,739	6,178		1904	5	50	90	18	234	349
Lumber and timber prod- ucts.	1914	453	20,947	60,066	10,855	22,827	44,675	Stoves and furnaces, not including gas and oil stoves.	1914	9	169	212	115	113	316
	1909	525	20,704	67,839	10,918	20,865	42,353		1909	10	185	113	121	245	600
	1904	332	20,471	57,575	10,309	17,798	42,033		1904	10	109	98	59	102	304
Malt.....	1914	9	168	4,428	167	4,463	5,637	Tobacco manufactures....	1914	324	1,261	32	699	1,128	2,872
	1909	9	138	3,567	110	3,531	4,315		1909	339	1,613	37	832	1,256	3,365
	1904	7	69	1,160	51	897	1,198		1904	352	1,780	20	837	1,098	3,205
Marble and stone work....	1914	127	1,579	7,050	1,159	1,211	3,121	Woolen goods:.....	1914	16	448	1,266	229	850	1,298
	1909	112	1,738	5,422	1,029	1,045	2,965		1909	16	277	642	123	429	699
	1904	53	827	1,743	509	341	1,245		1904	16	343	941	129	463	791
Mattresses and spring beds	1914	13	440	1,262	268	906	1,595	All other industries.....	1914	374	5,812	16,749	3,831	17,535	27,258
	1909	15	453	1,192	248	810	1,508		1909	343	5,559	16,910	2,918	13,895	22,015
	1904	8	192	192	93	297	581		1904	333	4,465	9,243	2,144	10,594	16,058
Millinery and lace goods..	1914	9	308	116	34	648	945								
	1909	8	498	12	152	598	931								
	1904														

<sup>1</sup> Includes "automobile repairing;" "engines, steam, gas, and water;" "gas machines and gas and water meters;" "hardware;" "plumbers' supplies;" "steam fittings and steam and hot-water heating apparatus;" and "structural ironwork."

<sup>2</sup> Includes "suspenders, garters, and elastic woven goods."

<sup>3</sup> Includes "saddlery and harness" and "trunks and valises."

<sup>4</sup> Includes also "boxes, wooden packing;" "lumber, planing-mill products, not including planing mills connected with sawmills;" "pulp wood;" and "window and door screens and weather strips."

<sup>5</sup> The figures can not be shown without disclosing individual operations.

<sup>6</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>7</sup> Includes "envelopes."

<sup>8</sup> Includes "perfumery and cosmetics."

<sup>9</sup> Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and lithographing."

<sup>10</sup> Includes "sausage, not made in slaughtering and meat-packing establishments."

## MANUFACTURES—MINNESOTA.

TABLE 34.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse power.	Wages.	Cost of ma- terials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse power.	Wages.	Cost of ma- terials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.															
DULUTH—All in- dustries.	1914	243	5,538	14,914	\$3,365	\$11,518	\$19,729	Clothing, men's, includ- ing shirts.	1914	21	795	160	\$341	\$1,125	\$1,732
	1909	194	6,083	17,561	3,593	8,844	17,180		1909	17	806	127	257	985	1,611
	1904	163	3,987	.....	2,186	4,634	10,139		1904	10	377	.....	125	616	890
Bread and other bakery products.	1914	18	111	93	64	260	478	Confectionery.....	1914	33	338	252	156	710	1,176
	1909	13	59	21	34	189	312		1909	12	328	162	112	661	1,072
	1904	12	56	.....	35	105	184		1904	8	260	.....	82	396	737
Clothing, men's, includ- ing shirts.	1914	5	238	47	90	520	690	Flour-mill and gristmill products.	1914	19	2,580	61,884	2,026	73,079	85,132
	1909	4	166	43	59	268	450		1909	13	2,279	50,598	1,530	70,953	78,670
	1904	4	74	.....	18	99	136		1904	12	2,227	.....	1,404	56,358	62,754
Confectionery.....	1914	10	81	51	34	187	347	Foundry and machine- shop products.	1914	150	3,558	5,125	2,749	5,662	12,017
	1909	8	65	22	29	108	219		1909	95	2,596	3,405	1,754	3,389	7,241
	1904	.....	.....	.....	.....	.....	.....		1904	170	1,969	.....	1,210	2,470	5,034
Copper, tin, and sheet- iron work.	1914	11	134	84	98	164	407	Fur goods.....	1914	19	127	39	85	285	566
	1909	6	54	5	42	58	144		1909	17	128	30	73	283	511
	1904	4	61	.....	36	60	139		1904	13	174	.....	75	230	462
Foundry and machine- shop products.	1914	15	491	1,767	352	794	1,641	Furniture.....	1904	27	703	1,197	465	731	1,653
	1909	13	479	1,399	338	609	1,375		1909	23	809	1,073	447	818	1,651
	1904	8	302	.....	186	349	703		1904	19	710	.....	326	491	1,238
Leather goods.....	1914	10	86	104	61	231	330	Gas and electric fixtures..	1914	10	43	31	37	94	187
	1909	6	140	70	82	449	640		1909	7	27	22	16	30	75
	1904	4	101	.....	61	124	221		1904	4	17	.....	6	17	34
Lumber and timber products.	1914	19	2,092	4,887	965	2,523	4,139	Hats and caps, other than felt, straw, and wool.	1914	5	21	11	12	38	54
	1909	14	3,074	7,350	1,692	2,636	5,562		1909	4	30	3	15	23	55
	1904	17	2,053	.....	1,051	1,389	3,806		1904	3	20	.....	9	11	27
Printing and publishing..	1914	38	350	454	313	303	1,114	Jewelry.....	1914	10	92	33	66	52	168
	1909	35	377	439	281	256	983		1909	8	76	31	48	55	156
	1904	30	208	.....	120	139	593		1904	5	49	.....	29	35	97
Tobacco manufactures....	1914	20	45	.....	26	43	124	Leather goods.....	1914	29	208	78	148	501	788
	1909	15	84	.....	51	68	180		1909	14	260	98	147	503	923
	1904	15	127	.....	98	98	319		1904	12	169	.....	92	296	498
All other industries.....	1914	97	1,910	7,427	1,362	6,493	10,459	Liquors, malt.....	1914	4	437	1,791	412	790	3,434
	1909	80	1,585	8,212	985	4,203	7,315		1909	4	322	1,426	128	514	2,171
	1904	69	1,005	.....	581	2,271	4,038		1904	5	251	.....	163	427	1,186
MINNEAPOLIS—All industries.	1914	1,349	28,295	109,040	18,895	131,199	187,854	Marble and stone work...	1914	10	353	965	257	399	796
	1909	1,102	26,962	89,247	15,638	119,993	165,405		1909	10	279	352	209	273	555
	1904	876	21,671	.....	11,418	88,882	121,162		1904	5	63	.....	52	66	130
Artificial limbs.....	1914	5	65	50	42	31	163	Models and patterns, not including paper pat- terns.	1914	7	39	37	21	10	48
	1909	6	38	30	31	21	162		1909	5	28	30	19	8	42
	1904	3	24	.....	15	16	107		1904	7	28	.....	16	8	40
Artificial stone products..	1914	51	192	219	144	194	447	Photo-engraving.....	1914	6	139	53	137	56	384
	1909	28	176	141	103	83	261		1909	5	104	22	93	25	204
	1904	9	105	.....	53	46	119		1904	4	71	.....	52	11	105
Bread and other bakery products.	1914	129	1,255	1,464	671	2,621	4,917	Printing and publishing..	1914	230	2,027	2,447	1,475	2,124	7,896
	1909	100	897	560	481	2,036	3,605		1909	216	1,755	2,180	1,162	1,693	6,478
	1904	70	732	.....	349	1,466	2,513		1904	185	1,501	.....	902	1,117	4,760
Butter.....	1914	8	62	382	35	1,330	1,524	Stereotyping and electro- typing.	1914	4	38	109	29	23	64
	1909	7	27	324	17	612	675		1909	3	30	56	21	13	52
	1904	12	22	.....	15	110	150		1904	3	49	.....	29	20	130
Carriages and wagons and materials.	1914	23	156	269	108	201	442	Tobacco manufactures....	1914	44	174	4	113	179	445
	1909	23	211	257	142	236	566		1909	45	314	16	168	254	666
	1904	23	171	.....	94	143	322		1904	48	377	.....	184	224	646
Cars, and general shop construction, and re- pairs by steam-railroad companies.	1914	5	3,140	2,798	2,148	2,142	4,549	All other industries.....	1914	500	11,762	29,642	7,218	38,822	59,272
	1909	3	2,576	1,674	1,863	2,338	4,309		1909	437	12,866	26,630	6,802	34,197	53,694
	1909	4	1,634	.....	953	982	2,027		1904	342	10,671	.....	5,183	23,326	37,156

<sup>1</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>2</sup> Figures can not be shown without disclosing individual operations.

<sup>3</sup> Includes "steam fittings and steam and hot-water heating apparatus."

<sup>4</sup> Includes "saddlery and harness" and "trunks and valises."

<sup>5</sup> Includes "boxes, wooden packing," and "lumber, planing-mill products, not including planing mills connected with sawmills."

<sup>6</sup> Includes "bookbinding and blank-book making."

<sup>7</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>8</sup> Includes "automobile repairing," "engines, steam, gas, and water," "steam fittings and steam and hot-water heating apparatus," and "structural ironwork."

<sup>9</sup> Includes "bookbinding and blank-book making," "engraving, steel and copper plate, including plate printing," and "lithographing."

## MANUFACTURES—MINNESOTA.

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TABLE 34.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse power.	Wages.	Cost of ma- terials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse power.	Wages.	Cost of ma- terials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
ST. PAUL—All in- dustries.	1914 1909 1904	737 719 614	19,483 19,339 14,363	38,886 26,204 .....	\$12,796 10,952 7,211	\$35,819 30,300 19,488	\$68,682 58,990 38,319	Furniture and refrigera- tors.	1914 1909 1904	17 19 17	487 455 354	1,651 804 .....	\$355 288 213	\$574 695 316	\$1,557 1,289 727
Artificial stone products..	1914 1909 1904	18 20 6	154 194 106	78 64 .....	106 121 67	93 86 52	288 288 166	Leather goods.....	1914 1909 1904	22 9 9	229 272 302	200 214 .....	149 141 160	467 502 616	849 797 1,052
Boots and shoes.....	1914 1909 1904	4 5 4	1,055 1,617 1,041	673 697 .....	657 830 486	2,036 2,676 1,277	3,045 4,265 2,187	Liquors, malt.....	1914 1909 1904	3 3 4	910 748 354	2,611 1,964 .....	826 500 242	1,233 940 664	6,133 4,910 2,596
Boxes, cigar.....	1914 1909 1904	3 3 3	29 32 37	15 15 .....	16 11 12	40 24 24	80 52 50	Lumber and timber prod- ucts.	1914 1909 1904	19 17 13	747 654 717	2,447 2,804 .....	438 352 332	1,324 1,034 945	2,291 1,679 1,582
Bread and other bakery products.	1914 1909 1904	64 69 41	372 367 294	503 240 .....	294 253 157	951 743 610	1,561 1,368 1,019	Marble and stone work...	1914 1909 1904	13 10 5	190 216 93	797 519 .....	173 178 72	296 287 106	561 619 226
Butter.....	1914 1909 1904	7 6 14	112 50 49	516 535 .....	97 39 31	3,012 1,918 471	3,229 2,120 562	Mattresses and spring beds.	1914 1909 1904	4 7 3	112 95 50	108 113 .....	58 59 27	246 251 51	399 417 158
Cars and general shop con- struction and repairs by steam-railroad compa- nies.	1914 1909 1904	7 7 3	3,068 2,406 1,825	4,176 3,521 .....	2,155 1,577 1,004	1,513 1,846 1,231	3,816 3,640 2,345	Paint and varnish.....	1914 1909 1904	6 6 3	58 48 46	322 243 .....	30 24 23	417 371 204	706 607 347
Clothing, men's, includ- ing shirts.	1914 1909 1904	11 13 8	1,128 884 894	321 204 .....	448 311 278	1,716 1,270 763	2,732 1,917 1,366	Patent medicines and compounds and drug- gists' preparations.	1914 1909 1904	28 25 24	88 99 85	235 158 .....	46 45 32	215 212 122	633 728 508
Confectionery.....	1914 1909 1904	11 9 10	182 170 205	118 157 .....	74 59 65	348 234 221	567 537 446	Tobacco manufactures....	1914 1909 1904	53 64 63	520 590 632	15 11 .....	269 312 275	432 468 375	1,111 1,336 1,158
Foundry and machine- shop products.	1914 1909 1904	61 45 30	1,766 2,118 1,214	6,406 3,474 .....	1,256 1,284 726	2,082 2,352 1,171	4,474 5,033 2,729	All other industries.....	1914 1909 1904	376 368 351	7,601 7,457 5,062	17,388 10,225 .....	4,902 4,099 2,638	16,499 12,451 8,558	31,141 24,278 16,304
Fur goods.....	1914 1909 1904	10 14 13	675 867 1,003	306 242 .....	447 469 401	2,325 1,840 1,711	3,509 3,110 2,791								
CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.															
MANKATO.....	1914 1909 1904	64 63 54	755 807 724	2,618 3,654 .....	\$434 346 303	\$3,217 2,728 2,529	\$4,344 3,723 3,422	STILLWATER.....	1914 1909 1904	34 38 36	621 688 955	1,012 1,952 .....	\$295 350 454	\$1,206 1,648 1,485	\$1,877 2,686 2,784
St. Cloud.....	1914 1909	77 69	1,429 626	3,724 3,362	864 355	1,288 1,342	2,695 2,299	WINONA.....	1914 1909 1904	91 99 86	2,070 2,032 1,953	6,438 8,628 .....	1,152 1,024 894	10,038 7,330 5,274	14,305 11,200 7,850

<sup>1</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.<sup>2</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.<sup>3</sup> Includes "automobile repairing;" "engines, steam, gas, and water;" "hardware;" "plumbers' supplies;" "steam fittings and steam and hot-water heating apparatus;" and "structural ironwork."<sup>4</sup> Includes "saddlery and harness" and "trunks and valises."<sup>5</sup> Includes "boxes, wooden packing," and "lumber, planing-mill products, not including planing mills connected with sawmills."<sup>6</sup> Includes "perfumery and cosmetics."



## MANUFACTURES—MINNESOTA.

TABLE 35.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.				
						Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.			
									Maximum month.	Minimum month.								
1	All industries.....	5,974	115,690	5,233	4,309	10,163	3,151	92,834	Fe 100,110	De 88,995	(*)	(*)	(*)	(*)	(*)	\$354,434,177		
2	Agricultural implements.....	17	1,165	10	41	205	37	872	Mh 1,104	No 414	936	936				7,501,038		
3	Artificial limbs.....	8	116	8	2	20	16	70	My 71	De 69	69	60	8	1		77,385		
4	Artificial stone products.....	191	1,036	220	47	28	3	738	Je 947	Ja 494	921	920	1			1,305,833		
5	Automobile bodies and parts.....	13	179	20	11	3	4	141	De 157	Ja 127	152	151	1			180,943		
6	Automobiles.....	11	417	10	18	32	12	345	Je 431	De 297	344	344				1,433,630		
7	Automobile repairing.....	150	697	190	19	13	19	456			472	470	1	1		831,319		
8	Repair work.....	144	674	187	17	12	19	439	Jy 471	Ja 366	456	455		1		819,819		
9	Vulcanizing tires.....	6	23	3	2	1		17	Jy 20	Ja 13	16	15	1			11,500		
10	Awnings, tents, and sails.....	17	160	20	7	14	9	110	Je 171	Ja 72	100	46	54			322,550		
11	Babbitt metal, type metal, and solder.....	3	14	1	5	2		6	De 7	Je 5	7	7				29,462		
12	Baskets, and rattan and willow ware.....	3	9	4				5	Mh 6	No 3	7	7				3,800		
13	Bookbinding and blank-book making.....	19	221	17	11	5	7	181	De 186	Ja 172	190	95	92	2	1	222,554		
14	Boots and shoes.....	14	2,284	1	40	165	66	2,012	Fe 2,268	Se 1,751	2,033	1,446	574	6	7	6,102,974		
15	Boxes, cigar.....	7	81	8	2	1	3	67	Au 73	Ja 61	70	23	45		2	75,823		
16	Boxes and cartons, paper.....	13	748	7	28	39	24	650	Fe 739	Jy 573	658	288	364	6		1,264,387		
17	Boxes, wooden packing.....	25	832	21	24	14	5	768	My 833	No 658	703	701		2		1,202,712		
18	Brass, bronze, and copper products.....	9	122	8	6	9		99	Ap 112	De 78	98	98				179,304		
19	Bread and other bakery products.....	443	3,236	468	71	305	223	2,169	Se 2,250	Ja 2,073	2,254	1,627	611	16		6,499,710		
20	Brick and tile, terra-cotta, and fire-clay products.....	61	1,364	56	55	34	4	1,215			1,704	1,704				4,266,414		
21	Building brick and architectural and fireproofing terra-cotta.....	54	1,048	53	46	24	1	924	Jy 1,064	Ja 350	1,391	1,391				2,862,845		
22	Sewer pipe and drain tile.....	7	316	3	9	10	3	291	Jy 337	Fe 212	313	313				1,403,569		
23	Brooms.....	19	141	26	3	12	1	99	Mh 105	De 94	98	95	3			112,579		
24	Brushes, not including toilet brushes.....	5	69	5	1	9	1	53	My 68	Jy 45	53	48	5			124,047		
25	Butter.....	773	2,152	205	221	223	72	1,426	Je 1,554	Fe 1,302	1,469	1,434	31	3	1	5,774,146		
26	Canning, vegetables.....	22	359	8	27	5	2	317	Se 1,173	Ja 8	1,279	767	498	11	3	550,333		
27	Carpets, rag.....	13	69	12	3	6	2	46	Je 54	Ja 30	47	41	6			49,565		
28	Carriage and wagon materials.....	6	23	5	1	1		16	De 17	Ap 15	17	13	4			39,262		
29	Carriages, wagons, and repairs.....	123	1,065	141	31	36	19	838			825	824	1			2,869,769		
30	Carriages and wagons.....	103	1,012	113	31	36	19	813	Fe 906	No 710	795	794	1			2,810,109		
31	Repair work only.....	20	53	28				25	De 27	Ja 24	30	30				59,650		
32	Cars and general shop construction and repairs by electric-railroad companies.....	8	478		23	20		435	De 481	Jy 396	430	430				1,763,472		
33	Cars and general shop construction and repairs by steam-railroad companies.....	38	11,096		248	266	31	10,551	Mh 11,005	De 10,100	10,372	10,366	2	4		18,693,984		
34	Cheese.....	34	54	17	4		1	32	Je 43	Ja 17	38	38				114,400		
35	Cleansing and polishing preparations.....	6	23	4	2	2	1	14	De 18	Se 10	18	6	12			7,913		
36	Clothing, men's.....	32	2,505	30	36	275	45	2,119			1,975	382	1,593			2,364,529		
37	Regular factories, men's and youth's.....	27	2,442	24	36	275	45	2,062	My 2,239	No 1,834	1,917	363	1,554			2,362,044		
38	Contract work, men's and youth's.....	5	63	6				57	Jy 58	Ja 55	58	19	39			2,476		
39	Clothing, women's.....	8	117	5	6	8	4	94	Oc 101	Mh 85	94	24	69	1		101,785		
40	Coffee, roasting and grinding.....	11	431	5	29	65	19	313	Je 337	No 283	305	135	170			1,530,097		
41	Confectionery and ice cream.....	102	1,380	107	61	177	57	978			1,127	459	667		1	1,958,074		
42	Confectionery.....	78	1,182	81	48	163	47	843	De 1,000	Jy 717	991	331	659		1	1,584,576		
43	Ice cream.....	24	198	26	13	14	10	135	Jy 192	Fe 101	136	128	8			373,498		
44	Cooperage.....	24	944	128	26	18	6	766			808	792	16			1,397,351		
45	Hogsheads and barrels.....	15	420	124	12	3	1	280	Jy 286	Fe 205	286	286				428,350		
46	All other.....	9	524	4	14	15	5	486	Oc 534	Jy 442	522	506	16			969,001		
47	Copper, tin, and sheet-iron work.....	138	1,150	145	50	72	28	855	Jy 948	Fe 749	847	847				1,679,377		
48	Dairymen's, poultrymen's, and apiarists' supplies.....	7	88	3	10	5	9	61	Mh 97	Oc 31	50	50				292,187		
49	Dental goods.....	6	28	4	1	1	4	18	(*) 18	(*) 18	18	16	2			24,604		
50	Druggists' preparations.....	4	29		6	4	2	17	Se 18	De 16	16	11	5			76,422		
51	Electrical machinery, apparatus, and supplies.....	17	317	9	29	28	15	236	De 263	Ja 210	233	219	13	1		393,911		
52	Electroplating.....	10	69	12	4		1	52	Ja 60	Jy 49	52	52				51,123		
53	Engines, steam, gas, and water.....	17	678	5	36	97	32	508	Se 575	No 479	507	506	1			4,356,554		
54	Engraving, steel and copper plate, including plate printing.....	6	43	7		1	1	34	Au 35	De 33	33	17	15	1		20,106		
55	Envelopes.....	3	123	2	6	6	7	102	My 107	De 96	102	24	78			168,855		
56	Fancy articles, not elsewhere specified.....	5	74	1	7	6	4	56	Oc 71	Ja 29	66	8	58			46,378		
57	Flags and banners.....	4	28	4			1	23	No 36	Ja 5	30	6	24			4,780		
58	Flax and hemp, dressed.....	4	21	3	3		2	13	Fe 27	De 9	45	45				36,906		
59	Flour-mill and gristmill products.....	286	7,399	266	404	1,761	404	4,564	Fe 4,673	Jy 4,466	4,723	4,630	93			46,411,297		

1 Owned power only.

2 Includes rented power, other than electric.

3 No figures given for reasons stated under "Explanation of terms."

# MANUFACTURES—MINNESOTA.

29

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$9,216,623	\$12,867,547	\$58,507,013	\$2,600,106	\$2,423,552	\$4,957,580	\$328,841,250	\$8,007,964	\$493,354,136	\$156,504,922	358,737	206,144	8,028	73,341	71,224	49,794	1
116,963	275,604	707,478	13,216	2,113	28,744	1,441,839	31,671	3,812,728	2,339,218	2,489	415	29	.....	2,045	427	2
1,980	29,022	45,948	.....	10,762	315	32,055	1,750	176,114	142,309	52	.....	.....	.....	52	.....	3
60,691	23,355	478,677	16,137	4,671	10,357	647,428	27,246	1,617,746	943,072	1,129	290	463	.....	376	.....	4
21,000	4,674	103,486	4,307	16,534	1,592	97,753	5,209	328,748	225,786	78	.....	.....	.....	78	.....	5
49,625	47,689	229,817	.....	13,486	4,527	522,498	9,530	901,590	369,562	368	160	23	.....	185	.....	6
19,660	14,403	367,082	5,500	63,652	7,654	341,195	29,657	1,076,221	705,369	695	48	157	.....	490	5	7
18,103	14,103	355,634	5,500	61,290	7,623	299,539	27,928	1,007,489	680,022	670	48	157	.....	465	5	8
1,500	300	11,448	.....	2,362	31	41,656	1,729	68,732	25,347	25	.....	.....	.....	25	.....	9
10,018	22,088	62,805	318	9,038	2,513	248,904	2,094	444,251	193,253	53	.....	.....	.....	53	.....	10
5,356	750	3,873	.....	1,330	136	65,021	513	81,041	15,507	7	.....	.....	.....	7	.....	11
.....	.....	3,340	.....	60	32	1,705	157	7,910	6,048	3	.....	.....	.....	3	.....	12
18,439	5,614	101,717	.....	12,213	1,422	83,831	2,296	304,072	217,945	76	.....	.....	.....	76	.....	13
114,556	267,049	1,121,155	.....	51,652	29,450	3,940,560	39,832	5,918,031	1,937,639	1,159	315	.....	.....	844	240	14
2,672	3,880	31,803	.....	3,791	263	66,270	1,267	142,979	75,442	40	.....	.....	.....	40	.....	15
62,828	54,794	325,068	.....	13,968	9,825	529,970	19,908	1,321,846	771,968	625	66	.....	.....	559	.....	16
51,311	14,959	428,040	200	7,564	9,614	1,125,506	13,495	1,788,391	649,390	2,569	1,600	50	.....	919	385	17
11,698	5,540	67,613	381	5,600	1,111	229,862	12,106	358,643	116,675	154	.....	.....	.....	154	.....	18
125,621	410,885	1,307,708	2,316	143,535	47,350	4,593,682	200,706	8,724,162	3,929,774	2,289	1,147	12	1	1,129	932	19
96,943	49,119	764,458	497	13,599	21,280	297,137	451,958	2,151,727	1,402,632	7,664	6,211	303	.....	1,150	110	20
84,347	31,900	578,102	323	12,549	13,466	202,021	325,991	1,511,955	983,943	5,155	3,752	301	.....	1,102	85	21
12,596	17,219	186,356	174	1,050	7,814	95,116	125,967	639,772	418,689	2,509	2,459	2	.....	48	25	22
2,460	9,832	60,849	.....	568	1,046	135,182	1,769	265,993	129,042	59	5	11	2	41	.....	23
780	15,164	32,604	100	3,815	488	171,576	1,158	244,176	71,442	29	.....	.....	.....	29	.....	24
179,520	121,198	1,140,617	38,035	50,146	37,024	30,072,956	288,246	33,294,003	2,932,801	12,514	10,172	893	11	1,433	210	25
25,201	3,280	75,941	1,360	5,212	2,425	310,495	11,786	527,399	205,118	947	752	75	.....	120	.....	26
2,680	4,988	22,379	1,422	2,741	283	4,443	2,197	57,337	50,697	93	.....	.....	.....	67	.....	27
1,800	547	11,266	.....	940	172	19,392	763	42,245	22,090	25	.....	.....	.....	15	.....	28
55,108	48,191	556,452	125	19,744	19,972	971,587	38,224	2,163,363	1,153,552	1,979	1,189	246	.....	544	138	29
55,108	48,191	536,109	125	16,704	19,512	954,614	36,997	2,101,356	1,110,045	1,884	1,189	194	.....	501	138	30
.....	.....	20,343	.....	3,040	460	16,973	1,527	43,507	43,507	95	.....	.....	.....	43	.....	31
40,946	18,376	433,767	.....	26,122	347,222	19,592	.....	862,575	495,761	1,266	.....	.....	.....	1,266	.....	32
373,738	269,825	7,544,270	5,364	.....	37,833	5,784,609	542,619	14,594,018	8,266,790	15,678	10,333	502	40	4,803	7,010	33
1,335	500	26,340	65	1,142	462	401,562	6,349	452,393	44,482	351	351	.....	.....	.....	.....	34
2,600	1,750	6,165	.....	596	51	32,752	167	53,950	21,001	8	.....	.....	.....	8	.....	35
80,077	228,254	844,951	17,013	59,363	15,757	3,105,394	18,533	4,738,607	1,614,680	422	76	.....	.....	346	62	36
80,077	228,254	816,951	17,013	57,983	15,718	3,103,608	18,000	4,695,921	1,574,313	415	76	.....	.....	339	62	37
.....	.....	28,860	.....	1,380	39	1,786	533	42,686	40,367	7	.....	.....	.....	7	.....	38
11,380	11,143	45,300	.....	6,298	657	92,126	1,294	209,009	115,589	23	.....	.....	.....	23	.....	39
91,088	108,696	155,205	602	33,172	15,461	3,793,651	25,042	4,728,582	909,889	924	275	.....	.....	649	108	40
118,951	268,921	440,810	3,360	60,009	13,404	2,196,659	47,748	3,876,914	1,632,507	1,363	582	26	.....	755	50	41
101,427	249,166	355,759	3,060	54,432	11,089	1,693,451	35,912	3,039,435	1,310,072	866	495	10	.....	361	50	42
17,524	19,755	85,051	300	5,577	2,315	503,208	11,836	887,479	322,435	497	87	16	.....	394	.....	43
38,667	20,827	486,963	9,571	12,344	1,224,614	18,552	2,166,206	923,043	2,331	2,331	2,201	20	.....	110	11	44
12,647	3,224	201,543	6,071	5,047	561,441	11,574	962,109	389,094	495	495	407	.....	.....	88	.....	45
26,020	17,603	285,420	3,500	7,297	663,173	6,978	1,204,100	533,949	1,836	1,836	1,794	20	.....	22	11	46
94,273	65,155	592,299	19,488	31,090	13,406	1,299,923	16,333	2,707,982	1,391,726	473	108	59	.....	306	80	47
15,800	7,154	36,289	.....	2,124	1,064	87,450	3,416	218,512	127,646	228	100	34	.....	94	.....	48
3,600	3,390	9,748	.....	1,802	78	261,868	631	294,429	31,930	21	.....	.....	.....	21	.....	49
11,180	4,880	14,454	.....	1,060	413	119,360	270	170,245	50,615	1	.....	.....	.....	1	.....	50
56,837	35,584	161,329	6,540	7,796	1,416	340,859	6,982	748,948	401,107	393	.....	24	.....	369	.....	51
4,767	806	38,079	533	5,548	232	12,207	5,415	90,840	73,218	133	.....	.....	.....	133	.....	52
76,932	126,943	334,123	16,102	8,045	14,109	621,533	36,520	1,950,239	1,292,186	1,603	125	76	.....	1,402	15	53
.....	1,600	20,622	700	5,310	93	9,652	228	59,546	49,576	16	.....	.....	.....	16	.....	54
5,660	11,081	46,758	.....	3,372	518	79,761	1,386	186,897	105,750	43	.....	.....	.....	43	.....	55
14,475	9,008	23,088	4,177	3,120	292	42,836	437	119,112	75,839	10	.....	.....	.....	10	.....	56
.....	.....	11,713	.....	1,209	.....	22,343	91	42,106	19,672	4	.....	.....	.....	4	.....	57
1,300	500	6,569	.....	248	.....	12,638	878	29,198	15,682	240	.....	25	.....	.....	.....	58
1,083,233	2,433,846	3,406,631	12,835	514,562	313,538	126,064,794	1,229,777	148,243,708	20,929,137	100,638	56,876	1,564	36,036	6,162	21,048	59

\* Same number reported for one or more other months.

\* Same number reported throughout the year.

TABLE 35.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.				
						Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Male.	Female.				
									Maximum month.	Minimum month.									
1	Food preparations, not elsewhere specified.	27	640	18	40	121	35	426					467	210	256	1	\$1,781,319		
2	Breadstuff preparations, cereals, and table food.	11	327	3	21	56	22	225	Oc	252	Ap	207	252	63	189		850,866		
3	Macaroni, vermicelli, and noodles.	5	117	4	7	9	2	95	No	111	Jy	81	93	40	52	1	202,902		
4	All other, including prepared food for animal and fowl consumption.	11	196	11	12	56	11	106	Se	148	Ja	80	122	107	15		707,551		
5	Foundry and machine-shop products.	205	4,539	172	241	387	116	3,623					3,513	3,498	11	4	13,739,123		
6	Boiler shops.	4	307	1	9	22	4	271	Jy	334	Fe	203	257	257			835,537		
7	Foundries.	13	1,113	16	27	74	3	993	Jy	1,061	De	894	932	932			2,141,294		
8	Machine shops.	183	3,119	155	205	291	109	2,359	Ap	2,627	No	2,016	2,324	2,309	11	4	10,762,292		
9	Fur goods.	36	1,184	34	44	224	44	838	No	970	Ja	760	910	343	567		3,315,699		
10	Furniture.	58	1,751	44	78	129	27	1,473					1,461	1,440	15	6	3,199,110		
11	Wood, including rattan and willow.	39	1,381	21	64	107	22	1,167	Ap	1,212	Ja	1,072	1,156	1,136	14	6	2,753,611		
12	Store and office fixtures.	19	370	23	14	22	5	306	Ap	342	De	256	305	304	1		445,499		
13	Furs, dressed.	6	72	4	2	4	2	60	De	67	Au	57	67	59	8		84,362		
14	Gas and electric fixtures.	15	161	9	16	20	5	111					114	103	11		182,576		
15	Electric fixtures.	9	119	6	10	15	5	83	Oc	87	Fe	78	87	87			123,187		
16	Gas fixtures and miscellaneous.	6	42	3	6	5		28	Oc	32	Fe	26	27	16	11		59,389		
17	Gas, illuminating, and heating.	47	1,339	1	54	207	39	1,038	My	1,236	Mh	869	984	984			17,932,037		
18	Glass, cutting, staining, and ornamenting.	15	186	9	12	6	6	153	Se	161	De	143	150	144	6		166,055		
19	Gloves and mittens, leather.	5	14	4	2			8	No	13	Mh	6	10	3	7		8,801		
20	Glucose and starch.	7	26	4	8			14	No	56	Ja	0	62	62			113,769		
21	Grease and tallow, not including lubricating greases.	11	61	13	1	5	3	39					40	40			149,810		
22	Tallow.	7	45	9		5	3	28	Se	29	Ap	27	28	28			127,016		
23	Soap stock and miscellaneous products.	4	16	4	1			11	De	12	Fe	8	12	12			22,794		
24	Hand stamps.	7	53	8	3	4	4	34	Oc	36	Je	33	35	33	2		31,199		
25	Hats and caps, other than felt, straw, and wool.	9	146	13	3	1	2	127	Je	144	Ja	104	142	49	93		65,423		
26	Hosiery and knit goods.	13	2,275	10	31	52	94	2,088	Mh	2,150	Ja	1,974	2,105	306	1,799		3,733,156		
27	House furnishing goods, not elsewhere specified.	5	41	5	1	2	2	31	Au	32	Fe	29	31	19	12		40,725		
28	Jewelry.	25	206	29	13	2	8	154	De	161	Je	149	158	147	7	4	123,340		
29	Lime.	5	247	6	5	9	4	223	Jy	276	Ja	144	201	201			518,335		
30	Liquors, malt.	65	2,842	38	184	511	57	2,052	Jy	2,370	Fe	1,892	2,009	2,004	5		28,993,778		
31	Lithographing.	4	105	8	18	3	3	76	No	80	Ja	73	77	61	16		239,442		
32	Looking-glass and picture frames.	15	80	15	8	13	3	41	De	47	My	38	42	41	1		123,206		
33	Lumber and timber products.	318	17,859	354	225	445	21	16,814	Fe	25,615	Se	11,833	19,926	19,915	11		38,687,782		
34	Lumber, planing-mill products, not including planing mills connected with sawmills.	100	3,625	69	151	225	43	3,137	Jy	3,423	Ja	2,725	3,131	3,113	7	11	7,648,508		
35	Malt.	9	219		23	27	1	168	Ja	178	Au	151	177	177			4,687,205		
36	Marble and stone work.	127	1,009	168	56	87	19	1,579					1,734	1,734			3,148,068		
37	Marble and stone work, other than slate.	119	1,627	162	48	71	17	1,229	Se	1,448	Ja	761	1,380	1,380			2,599,905		
38	Roofing and other slate products.	8	382	6	8	16	2	350	Au	435	Ja	268	354	354			548,163		
39	Mattresses and spring beds.	13	565	10	33	60	22	440	Se	474	De	394	398	347	51		1,492,747		
40	Millinery and lace goods.	9	325	4	9	1	3	308	Se	503	De	133	329	33	296		529,761		
41	Mineral and soda waters.	128	543	151	28	39	16	309	Jy	385	Ja	248	313	299	14		1,061,537		
42	Mirrors, framed and unframed.	3	27	4	3	4	2	14	Jy	16	Ja	13	15	15			16,937		
43	Models and patterns, not including paper patterns.	13	131	15	7	3	6	100	My	113	Se	88	103	102	3		111,176		
44	Musical instruments and materials, not specified.	4	13	3	4	2		4	Mh	5	Ap	3	5	5			11,622		
45	Oil, linseed.	6	462		23	33	6	400	No	516	Jy	285	485	485			9,065,597		
46	Optical goods.	8	80	5	7	9	5	54	No	56	My	52	52	37	14	1	60,575		
47	Paints.	11	222	2	17	65	14	124	My	138	Au	110	117	92	25		1,150,783		
48	Paper and wood pulp.	8	1,417	2	25	36	9	1,345	Fe	1,467	Au	1,261	1,262	1,229	33		16,540,268		
49	Paper goods, not elsewhere specified.	3	17	4	2	1		10	De	11	Au	9	11	7	4		47,139		
50	Patent medicines and compounds.	84	980	72	63	138	146	561	Fe	640	No	480	543	235	307	1	5,257,685		
51	Paving materials.	7	206		12	8	2	184	My	308	De	104	183	183			552,166		
52	Perfumery and cosmetics.	11	71	5	12	6	13	35	Se	36	Ja	32	38	15	23		96,596		
53	Photo-engraving.	11	330	8	26	36	26	234	Ap	257	Se	222	229	201	28		257,049		
54	Pickles, preserves, and sauces.	13	159	12	7	18	3	119					103	69	34		528,561		
55	Preserves.	3	8	1	1	1		6	Se	8	Ap	4	8	4	4		20,704		
56	Pickles and sauces.	10	151	11	7	17	3	113	Se	173	Ap	81	95	65	30		507,857		

Owned power only.

Includes rented power, other than electric.

# MANUFACTURES—MINNESOTA.

31

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$172,947	\$167,906	\$248,565	\$700	\$15,797	\$36,068	\$3,014,406	\$34,953	\$4,978,745	\$1,929,386	1,369	500	33	33	803	106	1
124,027	66,377	136,283	200	9,660	16,837	1,732,945	8,316	3,037,189	1,295,928	402	290	.....	33	79	95	2
17,700	11,718	44,337	500	3,522	1,733	173,101	5,696	313,478	134,681	215	110	33	.....	72	8	3
30,320	89,811	67,945	.....	2,615	17,498	1,108,360	20,941	1,628,078	498,777	752	100	.....	.....	652	3	4
486,658	437,071	2,724,521	33,850	73,188	96,231	4,376,696	282,843	10,549,183	5,889,644	10,664	3,939	471	7	6,247	396	5
31,640	16,470	172,530	8,395	6,330	6,156	250,947	12,788	667,390	403,655	648	330	50	.....	268	69	6
87,067	67,109	738,845	100	15,700	20,022	1,401,575	129,104	2,943,991	1,413,312	2,035	2,660	14	.....	1,361	.....	7
367,951	353,492	1,813,146	25,355	57,158	69,153	2,724,174	140,951	6,937,802	4,072,677	7,981	2,949	407	7	4,618	327	8
122,382	216,224	549,304	881	97,315	21,605	2,665,417	11,223	4,207,468	1,530,828	372	.....	10	.....	362	.....	9
140,844	112,551	921,091	18,454	39,292	22,351	1,296,764	51,329	3,240,244	1,892,151	2,915	1,353	345	.....	1,217	48	10
116,406	99,675	700,479	4,555	28,691	19,368	1,066,564	39,936	2,492,198	1,385,698	2,368	1,353	345	.....	670	48	11
33,438	12,876	220,612	13,899	10,601	2,983	230,200	11,393	748,046	506,453	547	.....	.....	.....	547	.....	12
2,400	3,971	39,814	.....	10,080	371	38,257	6,075	117,452	73,120	335	200	.....	.....	135	.....	13
21,781	17,379	76,755	50	13,448	1,342	161,919	2,715	341,289	176,655	104	.....	2	.....	102	.....	14
12,181	13,429	56,182	50	8,388	755	116,160	2,433	248,188	129,595	95	.....	.....	.....	95	.....	15
9,000	3,950	20,573	.....	5,060	587	45,759	282	93,101	47,060	9	.....	2	.....	7	.....	16
124,352	204,965	646,370	1,347	175	235,033	395,705	1,285,565	4,158,606	2,477,336	4,670	4,147	339	.....	134	108	17
15,846	8,719	89,080	140	6,746	1,125	91,496	3,516	283,075	188,063	71	.....	.....	.....	71	.....	18
1,340	.....	2,895	.....	927	6	5,828	142	12,051	6,081	5	.....	.....	.....	5	.....	19
1,227	.....	8,735	.....	120	719	57,275	4,406	85,705	24,024	292	287	5	.....	.....	.....	20
2,300	7,580	29,962	1,750	1,834	662	118,761	11,095	207,993	78,137	209	200	9	.....	.....	20	21
.....	7,580	21,707	1,750	1,434	584	97,832	8,978	159,594	52,784	100	100	.....	.....	.....	20	22
2,300	.....	8,255	.....	400	78	20,929	2,117	48,399	25,353	109	100	9	.....	.....	.....	23
4,628	4,468	24,466	1,100	4,630	292	24,495	954	88,580	63,131	15	.....	.....	.....	15	.....	24
3,900	1,560	52,589	.....	6,380	1,043	157,695	2,662	240,840	80,492	31	.....	.....	.....	31	.....	25
110,128	238,698	891,626	.....	9,778	18,343	2,502,914	23,505	4,665,325	2,138,906	2,149	1,850	27	.....	272	723	26
2,700	2,832	19,310	95	3,150	138	32,698	501	77,243	44,044	6	.....	.....	.....	6	.....	27
14,556	6,370	114,928	.....	12,017	729	100,949	2,148	307,833	204,736	51	.....	.....	.....	51	6	28
6,560	11,520	126,793	4,983	4,500	5,300	96,565	42,412	342,490	203,513	328	260	25	.....	43	.....	29
681,481	644,754	1,749,611	7,927	125,790	2,205,324	3,011,275	291,926	14,266,296	10,963,095	9,201	7,917	19	25	1,240	975	30
18,525	19,341	58,232	.....	7,621	655	108,607	1,744	239,967	129,616	61	.....	.....	.....	61	.....	31
12,886	8,799	28,060	2,614	7,076	1,119	52,261	884	151,976	98,831	25	.....	.....	.....	25	.....	32
508,334	464,374	8,219,515	1,212,975	14,612	624,098	15,892,094	87,323	32,412,302	16,432,885	46,626	45,878	364	127	262	1,722	33
286,245	246,916	2,071,757	92,825	20,321	65,147	5,190,441	71,424	9,463,993	4,202,128	10,286	8,216	123	30	1,917	1,370	34
76,529	37,043	167,050	4,465	25	37,562	4,301,846	161,371	5,636,696	1,173,479	4,428	3,135	40	.....	1,253	1,878	35
94,895	78,140	1,159,014	12,803	15,974	21,641	1,112,652	98,481	3,121,447	1,910,314	7,050	2,193	174	740	3,043	315	36
77,300	63,245	912,134	9,043	15,250	18,682	755,353	86,182	2,384,447	1,543,309	6,163	1,996	162	740	3,265	315	37
17,595	14,895	246,880	3,760	724	2,950	357,299	12,299	736,603	367,005	887	197	12	.....	678	.....	38
58,898	104,105	267,501	.....	8,209	9,449	837,508	18,810	1,594,845	688,527	1,262	300	.....	.....	962	.....	39
11,339	1,819	34,400	.....	8,471	5,099	639,976	7,620	944,666	297,070	116	100	.....	.....	16	100	40
38,874	45,084	201,079	1,456	12,400	9,382	510,498	16,373	1,266,028	739,157	472	145	101	3	223	4	41
1,987	843	11,265	.....	2,053	64	24,603	1,554	50,309	24,152	34	.....	.....	.....	34	.....	42
11,529	6,400	81,161	49	3,394	703	29,764	2,072	135,447	108,611	72	.....	.....	.....	72	.....	43
3,000	1,500	2,225	500	1,200	105	1,475	167	21,375	19,733	12	.....	.....	.....	12	.....	44
85,011	36,577	325,592	.....	326	24,188	11,179,324	99,683	12,356,906	1,077,899	4,467	2,959	.....	.....	1,508	108	45
15,500	7,258	38,190	.....	7,804	435	73,852	1,098	218,776	143,826	19	.....	.....	.....	19	.....	46
51,215	95,485	88,802	.....	12,595	8,610	955,015	17,872	1,498,609	525,722	1,046	480	6	.....	560	.....	47
131,566	47,214	982,892	.....	125	86,260	2,777,153	467,801	5,572,537	2,327,583	53,259	10,350	35,773	.....	7,136	4,532	48
2,630	240	5,639	.....	1,540	205	23,100	266	53,500	30,134	12	.....	2	.....	10	.....	49
162,659	176,203	254,490	1,110	28,649	45,587	2,138,993	27,668	4,583,827	2,417,566	923	254	10	.....	659	200	50
26,244	10,110	153,141	.....	925	4,083	252,650	14,605	550,676	283,421	920	555	20	.....	345	50	51
13,425	10,774	16,000	.....	5,182	559	54,198	986	124,954	69,770	21	.....	.....	4	17	.....	52
60,026	56,933	226,327	22,309	16,370	975	85,196	5,558	605,781	515,027	84	.....	.....	.....	84	.....	53
22,500	28,538	64,130	.....	2,036	2,742	479,369	4,402	756,941	273,170	108	35	12	.....	61	.....	54
.....	965	4,283	.....	1,200	22	13,635	596	26,033	11,802	21	.....	.....	.....	40	.....	55
22,500	22,603	59,897	.....	836	2,720	465,734	3,806	730,908	261,368	87	35	12	.....	40	.....	56

\* Same number reported for one or more other months.

\* None reported for one or more other months.

## MANUFACTURES—MINNESOTA.

TABLE 35.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Average number.	Wage earners.		Total.	16 and over.		Under 16.			
						Male.	Female.		Number, 15th day of—			Male.	Female.	Male.	Female.		
									Maximum month.	Minimum month.							
1	Printing and publishing, book and job	258	4,105	256	235	464	249	2,901				2,890	2,053	821	15	1	\$6,122,158
2	Job printing	233	2,908	230	188	177	109	2,204	Ap 2,234	Oc 2,152	2,203	1,741	446	15	1		4,143,468
3	Book publishing and printing	13	1,055	7	39	285	136	588	Je 601	De 554	586	229	357				1,802,327
4	Linotype work and typesetting	12	142	19	8	2	4	109	Ap 120	De 94	101	83	18				176,333
5	Printing and publishing, newspapers and periodicals	705	5,338	687	290	965	454	2,942			2,996	2,496	445	54	1		8,426,504
6	Printing and publishing	23	1,611	11	66	490	189	855	De 886	Au 836	870	825	30	15			2,514,948
7	Printing, publishing, and job printing	582	3,402	627	166	350	172	2,087	De 2,122	Ja 2,052	2,126	1,671	415	39	1		5,613,066
8	Publishing without printing	100	325	49	58	125	93										
9	Printing materials	3	15		4	1	1	9	(*) 9	(*) 9	9	9					298,490 29,652
10	Refrigerators	3	312		13	31	2	266	Fe 313	Au 216	256	256					1,416,995
11	Saddlery and harness	76	705	71	37	54	13	530	Ap 572	Au 483	550	518	31	1			1,555,797
12	Sausage	10	38	14	1		1	22	(*) 22	(*) 22	22	22					26,023
13	Shipbuilding	30	169	36	3	2	3	125			128	128					223,150
14	New vessels	3	49	4		1	1	43	My 52	Au 34	48	48					69,867
15	Repair work	3	10	4				6	Je 10	De 2	7	7					15,650
16	Small boats	24	110	28	3	1	2	76	My 102	Oc 43	73	73					139,633
17	Shirts	13	411	4	24	26	8	349	Mh 387	No 326	330	156	171		3		485,699
18	Signs and advertising novelties	28	320	25	23	27	7	238			241	150	91				314,062
19	Electric signs	3	35	1	5	4	1	24	Se 33	Ja 16	24	21	3				53,467
20	Other signs	22	132	23	8	3	3	95	Ap 105	Jy 85	91	91					109,503
21	Advertising novelties	3	153	1	10	20	3	119	De 169	Ja 97	126	38	88				151,092
22	Slaughtering and meat packing	19	3,069	18	34	407	45	2,565	De 3,010	My 2,201	2,517	2,455	62				9,087,755
23	Soap	6	91	7	6	28	4	46	Mh 49	De 40	46	35	11				339,031
24	Statuary and art goods	4	17	4		2		11	No 12	My 9	11	11					11,818
25	Steam fittings and steam and hot-water heating apparatus	14	395	8	24	46	48	269			263	257	6				1,308,876
26	Radiators and cast-iron boilers	6	195	1	9	27	9	149	Jy 170	Ja 126	156	150	6				373,663
27	All other	8	200	7	15	19	39	120	Ap 133	De 101	107	107					935,223
28	Steam packing	5	227	1	14	29	9	174	Ja 224	De 111	174	164	10				1,135,551
29	Stereotyping and electrotyping	7	97	5	9	8	5	70	Fe 74	Jy 64	71	71					152,174
30	Stoves and hot-air furnaces	9	200	9	11	5	6	169			166	166					295,319
31	Stoves and ranges	5	184	2	11	5	6	160	Se 184	Ja 76	156	156					280,314
32	Hot-air furnaces	4	16	7				9	Oc 10	Au 8	10	10					15,005
33	Structural ironwork, not made in steel works or rolling mills	18	2,353	12	64	183	36	2,058	Au 2,565	Mh 1,539	2,006	2,004	2				5,085,860
34	Tobacco, chewing and smoking	8	10	10													1,834
35	Tobacco, cigars	316	1,749	347	35	81	25	1,261	Au 1,277	My 1,241	1,290	898	383	9			1,446,748
36	Tools, machinists' and miscellaneous	6	23	10				13	Jy 14	De 11	14	14					52,284
37	Upholstering materials, not elsewhere specified	5	44	4	5	1		34	De 39	Fe 29	44	44					142,174
38	Varnishes	4	45	2	7	13	3	20	My 21	De 18	18	16	2				227,872
39	Window shades and fixtures	6	33	10	2	3	2	16	Se 18	De 13	15	13	2				70,017
40	Wirework, woven-wire fencing	7	45	8	3		1	33	Je 57	De 21	31	31					50,195
41	Wooden goods not elsewhere specified	4	31	3	3	2	2	21	No 24	Ap 15	23	22	1				40,301
42	Woolen goods	16	498	11	21	15	3	448	Mh 471	De 429	436	236	199	1			1,634,262
43	All other industries *	193	6,588	119	289	814	210	5,156									26,948,825

\* Owned power only.

\* Includes rented power, other than electric.

* All other industries embrace—	8	Charcoal, not including production in lumber and wood distillation industries	1	Drug grinding	1	Hair work	1
Bags, other than paper	3	Chemicals	2	Dyeing and finishing textiles	2	Hardware	2
Baking powders and yeast	3	Coffins, burial cases, and undertakers' goods	6	Enameling	2	Hats, straw	1
Belting, leather	1	Coke, not including gas-house coke	1	Engraving and diesinking	2	Hats, wool-felt	1
Blacking, stains, and dressings	1	Condensed milk and milk products, other than butter and cheese	1	Engraving, wood	1	Horseshoes, not made in steel works or rolling mills	2
Bluing	1	Cordage and twine	1	Explosives	1	Ice, manufactured	2
Boot and shoe cut stock	1	Cordials and flavoring sirups	1	Fertilizers	3	Ink, printing	2
Butter, reworking	1	Corsets	1	Furnishing goods, men's	3	Ink, writing	2
Buttons	3	Cutlery and edge tools	3	Gas machines and gas and water meters	2	Iron and steel, blast furnaces	1
Carriages and sleds, children's	2			Gold and silver, reducing and refining, not from the ore	1	Iron and steel, steel works and rolling mills	1
Cars, steam-railroad, not including operations of railroad companies	1					Iron and steel, doors and shutters	1
Cement	2						

# MANUFACTURES—MINNESOTA.

33

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$503,351	\$595,279	\$1,989,911	\$426,082	\$180,822	\$47,018	\$2,039,822	\$71,138	\$7,652,223	\$5,541,263	2,650	195	6	2,440	29	1
384,245	230,087	1,511,084	225,153	168,844	25,205	1,765,765	59,121	5,535,381	3,710,495	2,302	195	6	2,101	29	2
106,456	361,967	395,249	200,929	6,444	21,173	261,781	7,653	1,947,764	1,678,330	322			322		3
12,650	3,225	83,578	5,534	5,534	640	12,276	4,364	169,078	152,438	26			26		4
601,717	1,358,985	2,088,182	511,509	183,580.	71,646	3,125,569	116,806	11,927,678	8,685,303	4,298	170	695	3,433	1	5
192,792	720,051	677,724	82,622	50,122	28,090	1,008,197	26,575	4,146,344	3,111,572	1,347		26		1,321	6
305,601	491,306	1,410,458	85,791	108,413	41,854	1,983,986	90,008	6,638,478	4,564,484	2,951	170	669		2,112	7
103,324	147,628		343,096	25,045	1,702	133,386	223	1,142,856	1,009,247						8
8,740	1,093	7,347		2,404	440	10,634	794	43,618	32,190	10	4			6	9
49,300	40,856	202,248			9,341	385,553	23,993	975,253	565,707	1,297	1,255			42	736
56,006	70,913	373,708	36	36,085	19,838	1,449,575	15,632	2,241,379	776,172	362	5	1		311	11
1,560	200	18,030		1,650	225	142,376	2,313	174,256	29,567	71	50			66	12
4,500	3,099	89,323	1,700	1,399	1,829	153,530	3,964	317,111	159,617	352	122	186		44	13
	1,680	34,819			700	62,362	2,070	116,518	52,086	158	100	58			14
		4,165		75	87	4,477	35	12,300	7,788	14		14			15
4,500	1,419	50,339	1,700	1,324	1,042	86,691	1,859	188,293	99,743	180	22	114		44	16
31,649	31,338	145,108	12,512	12,872	3,355	513,197	3,304	877,715	361,214	168	112			56	17
38,698	23,485	157,662	1,324	19,442	1,300	283,302	3,640	592,525	305,583	84		5		79	18
7,348	4,457	18,888	1,024	3,590	423	13,076	430	48,703	35,197	6				1	19
13,400	4,180	76,563	300	10,172	534	74,855	2,035	226,400	149,510	47				47	20
17,950	14,848	62,211		5,680	343	195,371	1,175	317,422	120,876	31				31	21
88,226	430,640	1,798,973	2,358	7,360	72,157	41,385,268	206,227	47,535,803	5,944,308	5,189	4,322	16		851	22
10,330	33,513	23,968		2,533	2,674	455,599	7,126	614,028	151,303	185	170			15	23
	3,000	7,896		694	80	7,452	311	23,130	15,367						24
76,795	334,381	189,934		4,140	6,348	418,982	10,721	1,185,992	756,289	268		30		238	25
18,180	19,090	100,408		700	3,286	116,286	8,152	294,137	169,699	208		30		178	26
57,615	315,291	89,526		3,440	3,062	302,696	2,569	891,855	586,590	60				60	27
28,168	35,332	113,919	129	920	5,633	322,966	30,681	752,521	398,874	1,250	450			800	28
15,569	10,298	61,603	378	6,840	1,722	60,784	4,087	175,037	110,166	203		2		201	29
17,072	6,885	115,354		2,820	1,011	105,694	7,218	316,335	203,423	212				212	30
17,072	6,885	109,791		2,400	914	97,810	6,732	296,835	192,293	197				197	31
		5,563		420	97	7,884	486	19,500	11,130	15				15	32
160,643	222,068	1,495,716	15,155	1,794	27,608	3,602,751	60,542	6,305,596	2,642,303	2,213	1,205	17		991	33
				632	4,009	7,013	35	16,034	8,986	1					34
65,310	89,116	699,126	2,409	43,652	214,714	1,111,173	10,243	2,856,459	1,735,038	31		10		21	35
		10,219		977	232	5,971	1,198	33,051	25,882	23		9		14	36
6,931	800	30,602		2,060	945	55,260	2,667	111,792	53,865	497	372			125	37
12,685	27,063	9,078		425	1,461	87,150	1,312	185,353	96,891	19				19	38
1,377	4,786	11,631		1,760	68	52,204	286	86,648	34,158	9				9	39
3,525	200	17,176	1,500	960	557	31,695	739	77,483	45,049	23				23	40
3,250	1,173	11,953		2,009	126	32,741	628	60,565	27,196	46		6		46	41
47,142	18,623	229,222	1,118	3,140	8,865	823,789	25,722	1,297,654	448,143	1,266	441	46	509	270	42
603,398	908,048	3,103,599	21,249	98,080	153,935	15,326,815	1,055,507	25,092,567	8,709,945	12,655	8,405	235		4,015	43

<sup>3</sup> Same number reported throughout the year.

<sup>4</sup> Same number reported for one or more other months.

Iron and steel forgings.....	2	Musical instruments, organs.....	1	Safes and vaults.....	2	Theatrical scenery.....	1
Labels and tags.....	1	Musical instruments, pianos.....	3	Sand and emery paper.....	1	Tinware.....	4
Lamps and reflectors.....	2	Oakum.....	1	Sand-lime brick.....	3	Toys and games.....	1
Lapidary work.....	1	Oil, not elsewhere specified.....	3	Show cases.....	2	Trunks and valises.....	17
Lead, bar, pipe, and sheet.....	1	Photographic apparatus.....	1	Soda-water apparatus.....	4	Type founding.....	1
Leather goods, not elsewhere specified.....	2	Photographic materials.....	1	Sporting and athletic goods.....	1	Vault lights and ventilators.....	2
Leather, tanned, curried, and finished.....	4	Plumbers' supplies, not elsewhere specified.....	1	Stamped and enameled ware.....	1	Washing machines and clothes wringers.....	2
Linen goods.....	2	Pottery.....	1	Stationery goods, not elsewhere specified.....	4	Window and door screens and weather strips.....	5
Lubricating greases.....	2	Printing and publishing, music.....	2	Sugar, beet.....	1	Wood preserving.....	1
Matches.....	1	Pulp wood.....	5	Surgical appliances.....	2	Wood, turned and carved.....	1
Mats and matting, from cocoa fiber and grass.....	1	Regalia and society badges and emblems.....	2	Suspenders, garters, and elastic woven goods.....	3	Wool pulling.....	1
Motorcycles, bicycles, and parts.....	3	Roofing materials.....	7				
Mucilage and paste.....	3						



## MANUFACTURES—MINNESOTA.

TABLE 35.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	10 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

## CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

1	DULUTH—All industries.....	243	6,778	184	259	652	145	5,538	Ja	7,084	Je	4,688	6,005	5,374	622	8	1	\$19,617,399
2	Artificial stone products.....	3	11	5	.....	.....	.....	6	Oc <sup>s</sup>	10	Ja	0	10	10	.....	.....	.....	7,950
3	Bread and other bakery products.....	18	168	18	6	24	9	111	No	117	Mh	106	115	79	36	.....	.....	253,100
4	Carriages and wagons.....	4	29	4	2	1	1	21	Je	25	Ja	15	22	22	.....	.....	.....	65,588
5	Clothing, mens', including shirts.....	5	292	1	9	36	8	238	Ap	326	No	143	148	34	114	.....	.....	217,020
6	Confectionery.....	10	141	11	5	32	12	81	Oc	93	Je	75	76	27	49	.....	.....	205,789
7	Copper, tin, and sheet-iron work.....	11	161	8	9	7	3	134	Jy	165	De	104	143	143	.....	.....	.....	255,952
8	Foundry and machine-shop products.....	15	599	11	26	63	8	491	Jy	576	De	391	409	409	.....	.....	.....	2,311,258
9	Furniture, wood, including store and office fixtures.....	5	60	4	2	4	1	49	Mh	77	De <sup>s</sup>	31	31	31	.....	.....	.....	97,315
10	Jewelry.....	5	22	6	.....	.....	2	14	Mh <sup>s</sup>	15	Jy <sup>s</sup>	13	14	14	.....	.....	.....	11,215
11	Lumber and timber products.....	9	1,751	2	26	55	.....	1,668	Ja	3,217	Je	780	2,353	2,353	.....	.....	.....	3,730,801
12	Lumber, planing-mill products, not including planing mills connected with sawmills.....	10	481	2	19	32	4	424	Se	468	Je	377	380	379	1	.....	.....	1,138,830
13	Mineral and soda waters.....	4	19	5	1	.....	.....	13	Jy <sup>s</sup>	17	De <sup>s</sup>	11	11	11	.....	.....	.....	32,688
14	Printing and publishing, job work, bookbinding and blank-book making.....	25	254	25	23	15	9	182	Ja	192	De	168	168	132	34	2	.....	457,988
15	Printing and publishing, newspapers and periodicals.....	13	298	7	19	83	21	168	.....	.....	.....	.....	165	156	7	2	.....	456,858
16	Printing and publishing and job printing.....	8	280	4	18	73	17	168	Au	181	Ja	159	165	156	7	2	.....	454,778
17	Publishing without printing.....	5	18	3	1	10	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,080
18	Saddlery and harness.....	8	113	5	9	16	3	80	Fe <sup>s</sup>	93	Oc	61	74	68	6	.....	.....	369,052
19	Tobacco, cigars.....	20	76	21	1	4	5	45	Jy	49	Mh <sup>s</sup>	42	49	41	7	.....	1	58,199
20	All other industries*.....	78	2,303	49	102	280	59	1,813	.....	.....	.....	.....	1,837	1,465	368	4	.....	9,947,787

\* All other industries embrace—

Artificial limbs.....	1	Brooms.....	1	Chemicals.....	1	Food preparations, not elsewhere specified.....	2
Awnings, tents, and sails.....	3	Butter.....	2	Coffee, roasting and grinding.....	2	Fur goods.....	2
Baking powders and yeast.....	1	Carpets, rag.....	1	Coffee, burial cases, and undertakers' goods.....	1	Gas and electric fixtures.....	2
Boots and shoes.....	1	Cars and general shop construction and repairs by electric-railroad companies.....	2	Coke, not including gas-house coke.....	1	Glass, cutting, staining, and ornamenting.....	1
Boxes, cigars.....	1	Cars and general shop construction and repairs by steam-railroad companies.....	2	Cooperage.....	2	Gloves and mittens, leather.....	2
Boxes and cartons, paper.....	1	.....	.....	Flour-mill and gristmill products.....	2	.....	.....
Brass, bronze, and copper products.....	1	.....	.....	.....	.....	.....	.....

21	MINNEAPOLIS—All industries.....	1,349	36,459	1,217	1,499	3,997	1,451	28,295	Au	29,479	Ja	26,950	28,335	22,823	5,478	31	3	\$115,591,908
22	Agricultural implements.....	4	64	.....	6	15	6	67	Fe	91	Je	48	63	63	.....	.....	.....	496,706
23	Artificial limbs.....	5	106	.....	1	20	14	65	My <sup>s</sup>	66	De <sup>s</sup>	64	64	55	8	1	.....	69,702
24	Artificial-stone products.....	51	262	51	11	6	2	192	Ap	217	De	144	244	244	.....	.....	.....	308,973
25	Automobiles.....	6	323	.....	10	25	9	279	Je	367	De	232	279	279	.....	.....	.....	1,258,916
26	Automobile repairing.....	54	264	55	7	7	3	222	.....	.....	.....	.....	229	227	1	1	.....	345,566
27	Repair work.....	48	272	52	5	6	3	206	Jy	218	Ja	186	213	212	.....	1	.....	334,066
28	Vulcanizing tires.....	6	22	3	2	1	.....	16	Au	20	Ja	13	16	15	1	.....	.....	11,500
29	Babbitt metal, type metal, and solder.....	3	14	1	5	2	.....	6	De	7	Je	5	7	7	.....	.....	.....	29,462
30	Bookbinding and blank-book making.....	8	96	6	6	3	1	76	Je	80	Ja <sup>s</sup>	68	78	53	25	.....	.....	116,675
31	Boxes and cartons, paper.....	4	329	2	13	9	11	294	Fe	366	De	255	294	111	178	5	.....	403,224
32	Boxes, wooden packing.....	9	271	6	11	6	4	244	Je	285	Oc	208	216	216	.....	.....	.....	496,134
33	Bread and other bakery products.....	129	1,743	126	40	217	105	1,255	Se	1,321	Ja	1,196	1,293	847	442	4	.....	4,308,889
34	Brick and tile, terra-cotta, and fire-clay products.....	6	64	3	7	.....	.....	54	Au	121	Ja <sup>s</sup>	3	108	108	.....	.....	.....	140,614
35	Brooms, from broom corn.....	6	59	10	1	7	.....	41	My	43	Ja <sup>s</sup>	40	40	40	.....	.....	.....	40,203
36	Butter.....	8	104	2	14	14	12	62	Jy	76	Ja	51	59	52	7	.....	.....	490,290
37	Carpets, rag.....	6	37	7	.....	3	1	26	Oc	30	Ja <sup>s</sup>	19	27	24	3	.....	.....	37,715
38	Carriage and wagon materials.....	3	14	2	1	.....	.....	11	De	12	Ja	8	12	9	3	.....	.....	20,765
39	Carriages and wagons.....	20	181	22	7	4	3	145	Au	158	Oc	125	140	140	.....	.....	.....	371,224
40	Cars and general shop construction and repairs by steam-railroad companies.....	5	3,342	.....	84	100	18	3,140	No	3,197	Ja	3,087	3,126	3,126	.....	.....	.....	4,179,873
41	Clothing, men's, men's and youths', including contract work.....	15	759	13	13	51	3	679	My	729	No	645	674	132	542	.....	.....	708,025
42	Coffee, roasting and grinding.....	5	127	5	11	23	10	78	Se	88	Oc	68	79	38	41	.....	.....	657,659
43	Confectionery and ice cream.....	38	575	37	27	76	24	411	.....	.....	.....	.....	523	223	300	.....	.....	785,351
44	Confectionery.....	33	480	34	18	71	19	338	De	452	Jy	242	453	155	298	.....	.....	692,295
45	Ice cream.....	5	95	3	9	5	5	73	Jy	110	De	52	70	68	2	.....	.....	183,056
46	Cooperage.....	11	576	116	15	13	3	429	Mh	460	Ja	369	451	444	7	.....	.....	772,585
47	Copper, tin, and sheet-iron work.....	67	507	72	22	33	15	365	Se	404	Ja	319	363	363	.....	.....	.....	785,052
48	Electrical machinery, apparatus, and supplies.....	10	228	6	16	24	14	168	Se	176	Ja	155	159	145	13	1	.....	293,246
49	Electroplating.....	7	51	8	3	.....	1	39	Ja	42	Mh	37	38	38	.....	.....	.....	33,223
50	Engines, steam, gas, and water.....	6	244	2	13	60	13	156	Fe	185	My	106	135	135	.....	.....	.....	2,493,499
51	Flour-mill and gristmill products.....	19	4,220	10	168	1,197	265	2,580	Fe	2,660	Oc <sup>s</sup>	2,521	2,644	2,561	83	.....	.....	25,557,517

1 Owned power only.

2 Includes rented power, other than electric.

# MANUFACTURES—MINNESOTA.

35

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$636,337	\$752,310	\$3,364,802	\$154,201	\$154,209	\$430,602	\$10,571,177	\$946,492	\$19,729,283	\$8,211,614	14,914	9,392	39	5,483	686	1
11,220	24,377	63,785	5,145	1,480	246,805	12,732	477,796	218,259	93	8	3	5	93	3	2
2,280	1,668	18,191	3,840	100	37,417	1,097	70,068	31,554	49	8	16	1,241	152	81	3
10,388	17,388	90,377	9,216	317	519,085	763	689,975	170,127	47	51	51	76	51	51	4
13,200	52,061	34,352	3,060	11,819	1,374	183,874	3,577	346,634	159,183	84	8	152	152	7	5
20,086	9,756	98,334	250	4,033	2,341	160,919	2,827	406,907	243,161	1,767	510	16	1,241	81	6
63,280	94,138	352,273	8,395	4,389	11,485	762,364	31,792	1,641,390	847,234	152	775	7	152	23	7
3,637	4,735	35,262	1,100	1,100	226	42,678	1,828	102,737	58,231	7	7	7	7	15	8
904	12,080	1,439	54	8,380	186	28,609	20,043	31,866	7	224	110	114	25	13	9
69,588	48,991	686,087	43,053	10,865	78,824	1,484,239	240	2,644,945	1,160,466	3,295	3,295	7	817	23	10
33,498	32,106	278,416	6,140	13,088	1,029,324	9,398	1,493,696	454,974	1,592	7	775	7	817	15	11
1,200	8,748	1,296	243	15,527	392	47,785	31,866	7	224	110	110	114	25	13	12
37,757	17,377	110,419	10,894	18,633	1,686	116,533	4,998	429,601	308,070	224	110	114	25	14	13
43,935	75,399	202,491	70,932	9,544	3,095	177,009	4,585	684,867	503,273	230	230	230	230	15	14
42,935	68,419	202,491	53,229	7,744	3,093	177,009	4,585	652,074	470,480	230	230	230	230	16	15
1,000	6,980	17,703	1,800	2	32,793	32,793	32,793	32,793	32,793	102	102	102	102	17	16
12,758	18,810	56,309	7,302	1,433	226,200	2,500	313,173	84,473	102	4,702	12	2,492	542	18	17
1,200	3,859	26,100	1,550	2,927	8,301	42,931	441	124,391	81,019	7,206	4,702	12	2,492	542	18
312,318	350,741	1,287,658	15,967	56,476	306,522	5,516,242	869,090	10,220,559	3,835,227	7,206	4,702	12	2,492	542	19

Grease and tallow, not including lubricating greases.....	1	Iron and steel, blast furnaces.....	1	Models and patterns, not including patterns.....	1	Show cases.....	1
Hats and caps, other than felt, straw, and wool.....	1	Lime.....	1	Optical goods.....	2	Signs and advertising novelties.....	1
Horseshoes, not made in steel works or rolling mills.....	1	Linen goods.....	2	Paints.....	2	Slaughtering and meat packing.....	1
Hosiery and knit goods.....	3	Liquors, malt.....	4	Patent medicines and compounds.....	5	Stoves and hot-air furnaces, except gas and oil stoves.....	1
Ice cream.....	2	Looking-glass and picture frames.....	1	Roofing materials.....	1	Trunks and valises.....	2
		Marble and stone work.....	3	Shipbuilding, wooden, including boat building.....	3	Woolen goods.....	1
		Matches.....	1				
		Mattresses and spring beds.....	2				

\$3,766,645	\$5,820,683	\$18,894,649	\$984,635	\$1,253,833	\$1,499,270	\$128,768,488	\$2,430,957	\$187,854,159	\$56,654,714	109,040	57,037	1,161	29,481	21,361	28,311	21
8,795	16,804	39,951	2,685	420	2,150	42,130	2,718	176,666	131,818	178	165			13	15	22
780	28,525	41,900		9,618	272	29,094	1,690	162,509	131,725	50				50		23
15,789	6,973	144,314	1,824	1,685	3,440	187,541	6,058	446,678	253,079	219	40	111		68		24
35,675	42,264	183,768		12,695	2,958	433,409	5,480	709,238	270,349	268	100			168		25
11,000	5,852	185,781		35,623	2,725	177,332	15,777	546,023	352,914	312		11		301		26
9,500	5,552	174,333	3,840	33,261	2,694	135,676	14,048	477,291	327,567	287		11		276		27
1,500	300	11,448		2,362	31	41,656	1,729	68,732	25,347	25				25		28
5,356	750		3,873	1,330	136	65,021	513	81,041	15,507	7				7		29
11,708	3,904	49,634		6,765	977	49,358	1,246	169,344	118,740	47				47		30
26,852	18,652	144,456		5,028	4,431	221,354	5,939	490,499	263,206	176	66			110		31
32,821	8,124	140,976		6,384	4,147	452,242	4,177	632,767	176,348	945	650	50		245	375	32
79,788	308,615	671,025	1,076	73,862	28,205	2,527,440	94,031	4,917,245	2,295,774	1,464	741			723	678	33
8,812		29,403		2,149	857	2,982	20,213	84,628	61,433	498	410	8		80		34
960	3,360	27,890		300	648	56,648	739	111,207	53,820	17				17		35
23,500	9,024	34,659		5,030	1,595	1,317,309	13,173	1,523,805	193,323	382	221			101	70	36
	2,283	11,942	1,422	1,601	200	1,453	1,205	27,390	24,732	53		23		30		37
1,800		8,207		700	85	14,459	435	28,640	13,746	14				14		38
13,465	4,807	100,151		4,732	2,906	180,819	5,518	413,163	226,826	255	160	7		88		39
118,722	91,835	2,148,126	5,014		33,355	1,995,164	147,263	4,549,448	2,407,021	2,798	2,473	310		15	2,620	40
28,515	46,708	293,884	250	23,886	5,770	995,160	7,156	1,396,049	393,733	133				133		41
43,048	65,145	39,840	52	8,782	5,009	1,619,006	8,876	2,037,634	409,752	256	50			206		42
63,517	117,728	198,735		29,099	5,236	932,597	21,333	1,610,903	656,973	605	230	10		365		43
47,900	107,872	155,584		25,709	4,085	696,011	13,520	1,176,442	466,911	252	155	10		87		44
15,617	9,856	43,151		3,390	1,151	238,586	7,813	434,461	190,062	353	75			278		45
20,907	14,256	285,194			8,342	765,005	13,761	1,390,310	611,544	1,028	1,002			26	5	46
45,926	27,480	261,643	16,269	17,678	5,515	527,026	6,240	1,092,367	559,101	180	28	33		119		47
43,640	33,889	108,539	5,790	6,125	1,008	249,572	4,950	558,452	303,930	302				302		48
3,207	806	28,725	533	4,167	176	9,853	3,823	67,340	53,664	98				98		49
33,142	69,421	114,581	6,102	1,740	5,826	226,437	13,549	933,104	693,118	549				493		50
606,861	1,626,442	2,025,660	464,606	199,272	72,502,223	576,280	85,132,444	12,053,941	61,884	61,884	29,275	15	29,069	3,525	18,929	51

<sup>1</sup> Same number reported for one or more other months.

<sup>2</sup> None reported for one or more other months.



# MANUFACTURES—MINNESOTA.

37

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$133,060	\$57,879	\$188,110	\$700	\$11,325	\$20,216	\$2,258,632	\$26,939	\$3,803,480	\$1,517,909	956	225	33	665	93	1
214,388	121,362	1,003,209	8,276	43,424	25,361	1,398,344	65,784	3,780,260	2,316,132	2,200	365	222	1,613	69	2
201,888	117,170	893,608	8,176	38,644	24,103	1,325,617	55,939	3,518,293	2,136,737	2,076	340	208	1,528	69	3
12,500	4,192	109,601	100	4,780	1,258	72,727	9,845	261,967	179,395	124	25	14	85		4
20,832	17,669	85,008		26,483	1,470	282,107	2,518	565,811	281,186	39			39		5
78,118	57,199	465,347	3,855	26,234	11,392	707,408	23,876	1,652,565	921,281	1,197	755	65	377	48	6
69,752	54,008	375,589	3,855	21,233	9,782	620,897	19,686	1,403,745	763,162	1,033	755	65	213	48	7
8,366	3,191	89,758		5,001	1,610	86,511	4,190	248,820	158,119	164			164		8
12,631	6,375	36,751		9,380	723	93,546	823	187,146	92,777	31		2	29		9
12,036	5,575	55,356		3,980	749	37,409	1,551	150,465	111,505	32			32		10
1,248	468	6,076	100	2,100	37	5,896	368	23,007	16,743	5			5		11
900	240	11,795		1,940	334	37,160	607	54,330	16,563	11			11		12
100,311	234,205	835,918		1,830	18,051	2,278,156	21,596	4,341,216	2,041,464	1,978	1,850	27	101	723	13
11,200	3,992	65,704		6,678	398	50,921	1,156	167,661	115,584	33			33		14
153,499	165,944	412,490		5,960	658,515	731,232	59,013	3,434,245	2,644,000	1,791	1,674		117	607	15
12,886	8,799	25,812		9,539	1,053	45,661	872	137,853	90,800	25			25		16
133,720	127,119	1,050,965	92,525	9,539	26,649	2,219,872	30,679	4,400,655	2,210,104	4,101	3,770	12	319	325	17
39,620	18,199	97,397	4,465	25	16,897	2,123,756	92,323	2,868,730	652,651	2,640	1,460		1,180	609	18
19,120	14,475	250,913	3,162	2,442	2,374	385,156	13,598	795,855	397,101	965	272	17	676		19
37,770	78,506	194,828		2,050	7,897	595,996	13,927	1,112,565	502,642	1,105	300		805		20
1,539	960	4,409		1,708		13,063	173	51,599	33,363	4			4		21
12,300	5,428	46,143		3,633	1,243	67,208	2,528	166,942	87,206	36		8	28		22
5,979		21,199		2,160	235	9,405	1,068	47,989	37,516	37			37		23
15,500	7,258	36,350		7,180	377	62,732	953	196,508	132,823	14			14		24
32,705	68,008	57,597		3,835	5,460	621,526	14,935	949,780	313,319	742	360	6	436		25
55,612	92,863	110,146	489	16,186	7,359	339,610	9,101	1,315,274	966,563	222	129	10	83	200	26
13,425	8,824	11,690		4,496	278	37,643	764	94,254	55,847	14			10		27
30,011	45,426	136,792	22,309	9,590	663	53,395	2,934	383,726	327,397	53			53		28
20,100	15,931	44,525		920	1,862	331,539	2,618	536,693	202,536	57	35		22		29
201,760	121,246	730,288	69,292	90,674	10,965	840,075	26,938	2,701,501	1,834,458	1,043		2	1,041		30
184,010	96,925	647,421	45,701	82,550	10,373	798,691	24,441	2,440,566	1,617,434	992		2	990		31
9,600	22,032	27,405	23,591	4,524	356	33,949	757	154,754	120,048	35			35		32
8,150	2,289	55,462		3,600	176	7,435	1,770	106,181	96,976	16			16		33
269,436	724,442	619,223	276,257	60,129	28,878	1,058,647	28,303	4,728,228	3,641,278	1,283	150		1,133		34
95,100	366,610	274,864	18,542	29,184	14,907	489,661	9,508	2,006,206	1,507,037	591			591		5
104,816	258,773	344,359	47,543	15,266	12,848	483,978	18,568	2,039,429	1,536,766	692	150		542		36
69,520	99,059		210,172	15,679	1,123	85,008	110	682,593	597,475				46		37
6,504	4,173	108,196	36	9,663	2,253	414,323	2,461	602,207	185,423	46					38
16,800	23,728	47,324	3,870	5,510	665	122,180	946	336,427	213,321	27			27		39
15,948	13,667	106,781	1,324	12,763	948	162,716	1,748	354,224	189,760	42			37		40
7,348	4,457	18,888	1,024	3,590	423	13,076	430	85,703	85,197	6		5	3		41
8,600	9,110	87,893	300	9,173	525	149,640	1,318	305,521	154,563	36			36		42
1,300	1,404	3,096		673	92	18,500	706	43,700	24,494	25	25				43
	3,000	7,896		694	80	7,452	311	23,130	15,367						44
61,215	327,984	115,795		3,080	5,197	343,976	5,205	991,120	641,939	120			120		45
6,564	4,016	29,125	89	2,640	1,486	20,115	2,853	63,938	40,970	109			109		46
142,083	205,501	1,329,387	6,696	1,050	24,767	3,365,638	49,756	5,766,029	2,350,635	1,944	1,120	15	809	1,675	47
25,500	19,814	112,781		7,554	24,098	178,335	1,033	444,567	265,199	4			4		48
11,855	6,404	39,798	3,500	5,838	837	83,311	1,271	185,767	101,185	32		2	30		49
554,584	649,058	3,061,592	442,833	126,462	254,200	21,785,233	936,549	31,046,338	8,324,556	13,364	8,936	101	375	3,952	50

\* Same number reported for one or more other months.

Ice, manufactured.....	1	Musical instruments and materials, not elsewhere specified.....	3	Sausage.....	3	Varnishes.....	1
Ink, writing.....	2	Oil, linseed.....	3	Shipbuilding, wooden, including boat building.....	3	Vault lights and ventilators.....	1
Iron and steel, steel works and rolling mills.....	1	Oil, not elsewhere specified.....	2	Show cases.....	2	Window and door screens and weather strips.....	3
Iron and steel, doors and shutters.....	2	Paper and wood pulp.....	3	Slaughtering and meat packing.....	1	Window shades and fixtures.....	4
Iron and steel forgings, not made in steel works or rolling mills.....	2	Paving materials.....	1	Soda-water apparatus.....	1	Wirework.....	4
Labels and tags.....	1	Photographic materials.....	2	Stamped and enameled ware.....	1	Wood preserving.....	1
Lapidary work.....	1	Printing and publishing, music.....	2	Suspenders, garters, and elastic woven goods.....	1	Wood, turned and carved.....	1
Lithographing.....	3	Printing materials.....	2	Theatrical scenery.....	1	Wooden goods, not elsewhere specified.....	2
Lubricating greases.....	1	Regalia and society badges and emblems.....	1	Tinware, not elsewhere specified.....	2	Wool pulling.....	1
Lumber and timber products.....	1	Roofing materials.....	4	Tools, not elsewhere specified.....	1	Woolen goods.....	1
Mirrors, framed and unframed.....	2	Safes and vaults.....	1	Type founding.....	1		
Mucilage and paste.....	2	Sand-lime brick.....	1	Upholstering materials.....	1		

TABLE 35.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerk's, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

1	ST. PAUL—All industries.....	737	24,680	628	945	2,744	880	19,483	My	19,934	De	18,689	19,509	15,360	4,112	32	5	\$76,789,920
2	Artificial stone products.....	18	188	17	9	8	.....	154	Je	222	De	81	152	152	.....	.....	.....	167,805
3	Automobile repairing.....	19	114	20	7	3	10	74	Oc	85	Ja	59	73	73	.....	.....	.....	53,303
4	Awnings, tents, and sails.....	6	54	6	1	3	3	41	My	65	Ja	24	40	19	21	.....	.....	55,028
5	Bags, other than paper.....	3	7	4	.....	.....	.....	3	Se	5	My	2	3	3	.....	.....	.....	4,762
6	Bookbinding and blank-book making.....	5	98	4	4	2	2	86	De	89	Au	84	89	28	58	2	1	54,819
7	Boots and shoes.....	4	1,125	.....	10	30	30	1,055	De	1,360	Ja	761	1,073	762	306	2	3	3,250,406
8	Boxes, cigar.....	3	36	5	1	.....	1	29	Fe	30	No	28	30	11	19	.....	.....	28,558
9	Boxes and cartons, paper.....	4	353	3	10	28	12	300	Oc	337	Jy	249	307	157	149	1	.....	798,288
10	Boxes, wooden packing.....	4	138	4	3	.....	.....	131	Fe	152	Oc	110	131	131	.....	.....	.....	183,154
11	Bread and other bakery products.....	64	572	64	17	57	62	372	No	390	Ja	351	392	342	47	3	.....	1,134,536
12	Butter.....	7	172	2	14	21	23	112	Je	131	Fe	94	118	108	10	.....	.....	495,537
13	Carriages, wagons, and repairs.....	14	362	16	14	18	6	308	.....	.....	.....	.....	315	315	.....	.....	.....	945,239
14	Carriages and wagons.....	11	348	11	14	18	6	299	Mh	342	De	266	303	303	.....	.....	.....	942,139
15	Repair work only.....	3	14	5	.....	.....	.....	9	De	12	Ja	8	12	12	.....	.....	.....	3,100
16	Cars and general shop construction and repairs by steam-railroad companies.....	7	3,194	.....	43	76	7	3,068	Mh	3,284	Au	2,727	2,884	2,882	2	.....	.....	6,756,373
17	Clothing, men's, including shirts.....	11	1,354	11	15	170	30	1,128	Ja	1,231	No	1,024	1,090	292	788	.....	.....	1,412,783
18	Confectionery.....	11	243	7	11	36	7	182	De	212	Je	161	210	69	141	.....	.....	283,479
19	Copper, tin, and sheet-iron work.....	23	277	23	9	18	7	220	Je	257	De	170	203	203	.....	.....	.....	331,048
20	Engines, steam, gas, and water.....	3	108	.....	8	12	5	83	Se	124	My	67	98	98	.....	.....	.....	872,283
21	Food preparations, not elsewhere specified.....	5	143	4	8	41	4	86	Oc	107	Ja	70	86	53	33	.....	.....	439,652
22	Foundry and machine-shop products.....	30	1,571	27	51	167	28	1,298	.....	.....	.....	.....	1,307	1,307	.....	.....	.....	5,176,595
23	Boiler and machine shops.....	25	859	22	37	110	27	663	Ja	838	No	513	708	708	.....	.....	.....	3,509,397
24	Foundries.....	5	712	5	14	57	1	635	Jy	700	De	573	599	599	.....	.....	.....	1,667,198
25	Fur goods.....	10	966	11	34	217	29	675	De	753	Ja	614	722	288	454	.....	.....	2,494,098
26	Furniture and refrigerators.....	17	582	13	27	48	7	487	Jy	548	Ja	416	498	492	6	.....	.....	1,718,918
27	Furs, dressed.....	3	37	3	.....	.....	.....	33	De	37	Oc	30	37	37	.....	.....	.....	44,922
28	Gas, illuminating and heating.....	3	360	.....	15	59	14	272	My	330	Fe	227	230	230	.....	.....	.....	6,091,692
29	Hand stamps.....	4	37	2	2	4	3	26	De	27	Se	25	27	25	2	.....	.....	21,800
30	Jewelry.....	7	46	8	3	.....	1	34	( <sup>1</sup> )	34	( <sup>1</sup> )	34	34	34	.....	.....	.....	39,030
31	Lumber, planing-mill products, not including planing mills connected with sawmills.....	15	735	6	33	66	14	616	Au	698	Ja	560	628	628	.....	.....	.....	1,517,246
32	Marble and stone work.....	13	233	10	12	15	6	190	Oc	236	Ja	74	190	190	.....	.....	.....	450,591
33	Mattresses and spring beds.....	4	150	.....	18	14	6	112	Se	181	Ja	92	100	92	8	.....	.....	316,698
34	Millinery and lace goods, trimmed hats and hat frames.....	6	305	.....	7	1	2	295	Se	488	De	115	317	29	288	.....	.....	503,737
35	Mineral and soda waters.....	7	98	5	8	25	3	57	Jy	71	Ja	45	59	59	.....	.....	.....	312,408
36	Patent medicines and compounds.....	24	167	29	18	20	29	71	Oc	74	Mh	69	71	41	30	.....	.....	316,803
37	Photo-engraving.....	5	133	2	13	15	9	94	De	96	Ja	89	97	80	17	.....	.....	104,010
38	Printing and publishing, book and job.....	76	2,207	77	97	337	181	1,515	.....	.....	.....	.....	1,499	978	517	4	.....	3,558,704
39	Job printing, including book publishing and printing.....	73	2,181	71	95	337	180	1,498	Ap	1,519	De	1,452	1,482	965	513	4	.....	3,522,585
40	Lithotype work and typesetting.....	3	26	6	2	.....	.....	17	My	18	De	16	17	13	4	.....	.....	36,119
41	Printing and publishing, newspapers and periodicals.....	44	1,295	25	59	318	158	735	.....	.....	.....	.....	761	667	75	19	.....	1,291,026
42	Printing and publishing.....	7	804	3	20	245	100	436	De	462	Au	428	446	426	6	14	.....	518,198
43	Printing and publishing and job printing.....	12	403	8	18	45	33	299	De	315	Jy	275	315	241	69	5	.....	662,414
44	Publishing without printing.....	25	88	14	21	28	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	110,414
45	Saddlery and harness.....	16	245	14	15	27	6	183	Ap	196	Jy	169	188	165	22	1	.....	479,441
46	Sausage.....	5	20	7	.....	.....	.....	12	( <sup>1</sup> )	12	( <sup>1</sup> )	.....	12	12	.....	.....	.....	16,400
47	Signs, other than electric, and advertising novelties.....	8	103	7	13	9	4	70	Mh	77	Jy	60	70	56	14	.....	.....	143,967
48	Slaughtering and meat packing.....	5	165	4	8	20	4	129	Ja	140	Oc	120	131	131	.....	.....	.....	774,914
49	Stereotyping and electrotyping.....	3	47	3	4	5	2	33	Fe	36	De	32	32	32	.....	.....	.....	70,473
50	Structural ironwork, not made in steel works or rolling mills.....	5	229	3	10	11	5	200	Jy	231	Mh	182	219	219	.....	.....	.....	296,320
51	Tobacco manufactures.....	53	650	56	12	48	14	520	Au	534	Je	506	511	305	206	.....	.....	581,604
52	All other industries *.....	163	5,761	126	302	794	145	4,394	.....	.....	.....	.....	4,485	3,585	899	.....	1	33,201,470

\* Owned power only.

\* Includes rented power, other than electric.

*All other industries embrace—	Carriage and wagon materials.....	1	Dental goods.....	1	Gold and silver, reducing and refining, not from the ore.....	1
Agricultural implements.....	Cars and general shop construction and repairs by electric-railroad companies.....	1	Druggists' preparations.....	1	Hair work.....	1
Artificial limbs.....	Cleansing and polishing preparations.....	2	Electrical machinery, apparatus, and supplies.....	5	Hosiery and knit goods.....	1
Automobile bodies and parts.....	Clothing, women's.....	4	Electroplating.....	2	Hardware.....	1
Automobiles.....	Coffee, roasting and grinding.....	4	Engraving and diesinking.....	1	Hats and caps, other than felt, straw, and wool.....	2
Baskets, and rattan and willow ware.....	Coffins, burial cases, and undertakers' goods.....	1	Engraving, wood.....	1	Hats, wool-felt.....	1
Boot and shoe cut stock.....	Confectionery (ice cream).....	1	Envelopes.....	1	Ink, printing.....	1
Brass, bronze, and copper products.....	Cooperage.....	3	Fancy articles, not elsewhere specified.....	1	Lead, bar, pipe, and sheet.....	1
Brick and tile, terra-cotta, and fire-clay products.....	Cordage and twine.....	1	Flags and banners.....	1	Leather goods, not elsewhere specified.....	1
Brooms.....	Corsets.....	1	Flour-mill and gristmill products.....	2	Liquors, malt.....	3
Brushes.....	Cutlery and edge tools.....	1	Gas and electric fixtures.....	2	Lithographing.....	1
Buttons.....	.....	1	Glass, cutting, staining, and ornamenting.....	5	Looking-glass and picture frames.....	2
Carpets, rag.....	.....	1	.....	.....	.....	.....

# MANUFACTURES—MINNESOTA

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OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$2,099,390	\$3,260,315	\$12,795,051	\$547,021	\$650,499	\$1,437,144	\$34,388,089	\$1,430,964	\$68,682,206	\$32,863,153	38,886	23,441	434	15,011	5,941	1
16,806	6,730	108,366	6,330	1,778	1,505	88,883	3,847	287,659	194,929	78	26	52	52	2	2
2,480	4,397	56,612	662	10,032	408	27,369	2,957	131,382	101,056	61	61	61	61	3	3
2,000	3,758	22,149	318	4,290	168	59,347	653	119,768	53,708	13	13	13	13	4	4
6,056	1,710	38,640	4,330	248	248	25,363	753	95,078	68,962	20	20	20	20	5	5
38,729	73,896	657,195	31,372	16,922	2,016,089	19,900	3,044,813	1,008,824	673	215	458	133	7	7	7
910	900	15,595	1,360	199	39,394	729	79,965	39,842	15	15	15	15	8	8	8
29,560	34,518	165,271	6,660	5,130	271,118	12,864	765,779	481,797	376	376	376	376	9	9	9
4,290	73,259	294,498	960	1,833	115,092	1,736	243,528	126,700	405	405	405	405	10	10	10
24,973	57,147	294,498	20,586	8,787	908,155	42,908	1,560,878	609,815	503	503	503	503	11	11	11
30,010	41,821	97,149	250	19,455	2,610	2,993,711	17,826	3,229,303	217,766	516	255	261	12	12	12
20,982	19,288	198,599	6,780	6,202	356,958	11,743	718,718	348,017	733	562	562	562	13	13	13
20,982	19,288	190,581	5,120	6,186	352,833	11,424	699,143	334,886	717	562	562	562	14	14	14
69,302	78,211	2,154,949	1,660	16	4,125	319	17,575	13,131	16	16	16	16	15	15	15
42,879	144,109	448,225	16,763	28,340	10,325	1,707,207	9,244	2,731,753	1,015,302	321	188	133	86	17	17
16,527	51,632	78,817	9,314	1,422	341,735	6,123	566,975	219,117	118	65	53	53	18	18	18
16,688	14,467	143,875	4,980	2,947	273,166	4,104	586,895	309,625	119	80	2	37	19	19	19
14,170	25,087	58,963	5,305	3,471	133,971	10,515	285,953	141,467	675	675	675	675	20	20	20
25,120	68,791	44,728	1,260	15,244	582,576	5,871	935,638	347,191	133	50	83	83	21	21	21
128,429	174,341	933,783	12,627	10,337	39,566	1,467,500	129,814	3,396,738	1,799,424	5,219	2,645	13	2,561	22	22
71,353	122,092	437,915	12,627	9,437	22,525	397,574	35,032	1,244,783	812,177	3,593	2,020	13	1,530	23	23
57,076	52,249	495,868	900	17,041	1,069,926	94,782	2,151,955	987,247	1,656	625	625	625	24	24	24
97,660	193,610	447,043	500	65,740	19,318	2,317,373	7,639	3,508,830	1,183,818	306	306	306	25	25	25
82,709	52,076	355,330	13,899	11,358	11,015	542,392	31,294	1,556,502	982,816	1,651	1,375	276	736	26	26
32,725	58,503	176,260	8,250	217	19,187	43,139	66,903	48,577	240	240	175	85	27	27	27
3,380	4,000	18,390	1,000	2,530	117,854	51,185	1,307,965	819,881	3,021	2,750	185	86	28	28	28
2,856	600	28,847	3,305	219	35,689	624	91,132	54,819	7	7	7	7	29	29	29
62,800	60,535	364,355	2,688	11,957	1,192,512	14,326	2,047,531	840,693	2,042	1,740	302	680	31	31	31
25,672	20,783	172,657	614	6,328	2,439	279,993	16,492	560,989	264,504	797	95	19	683	32	32
19,328	25,599	58,150	1,357	1,529	241,525	4,062	398,926	153,339	108	108	108	108	33	33	33
9,800	859	29,991	6,763	5,099	626,913	7,447	893,067	258,707	112	100	12	100	34	34	34
15,460	27,916	46,262	2,340	3,310	152,015	2,791	377,437	222,631	163	100	11	52	35	35	35
18,497	35,475	37,062	621	9,618	3,444	177,202	2,786	568,851	388,863	227	125	102	36	36	36
30,015	11,507	90,035	6,780	312	31,801	2,624	222,055	187,630	31	31	31	31	37	37	37
235,028	442,203	1,072,461	344,558	61,455	32,549	988,532	33,059	4,197,190	3,175,599	1,250	85	1,165	2	38	38
231,648	441,267	1,056,867	344,558	60,305	32,348	987,569	32,426	4,168,216	3,148,221	1,246	85	1,161	2	39	39
3,380	936	15,594	1,150	201	963	633	28,974	27,378	4	4	4	4	40	40	40
133,537	465,122	512,390	121,251	40,479	13,627	1,284,247	27,117	3,533,232	2,221,868	997	16	981	41	41	41
59,832	305,101	309,026	12,820	19,491	10,181	437,329	12,790	1,715,332	1,265,213	605	16	589	42	42	42
41,538	120,248	203,364	8,705	13,452	2,907	799,251	14,252	1,415,806	602,303	392	392	392	43	43	43
32,167	39,773	99,726	7,536	539	47,667	75	402,094	354,352	44	44	44	44	44	44	44
23,986	37,060	121,398	13,310	12,386	415,539	6,940	739,046	317,167	162	50	112	42	45	45	45
22,750	9,918	45,781	660	127	77,300	1,335	92,783	14,148	42	42	42	42	46	46	46
19,200	32,424	87,409	3,180	2,218	1,869,577	7,938	2,165,695	288,180	793	295	498	498	48	48	48
9,005	6,282	32,478	289	4,200	236	40,669	1,234	111,099	69,196	94	2	92	49	49	49
18,560	16,255	140,944	8,024	600	2,260	199,981	8,225	464,018	255,812	226	75	151	50	50	50
26,700	53,991	269,354	165	15,996	81,948	428,973	2,786	1,111,095	679,336	15	15	15	51	51	51
719,821	903,918	3,070,588	19,150	210,938	997,792	10,499,197	382,269	21,778,986	10,897,520	12,393	8,455	40	3,898	804	52

<sup>a</sup> Same number reported for one or more other months.

<sup>4</sup> Same number reported throughout the year.

Lubricating greases.....	1	Paints.....	3	Shipbuilding, wooden, including boat building.....	2	Surgical appliances.....	2
Mats and matting, from cocoa fiber and grass.....	1	Paper and wood pulp.....	1	Show cases.....	1	Suspenders, garters, and elastic women goods.....	2
Mirrors, framed and unframed.....	1	Paper goods, not elsewhere specified.....	1	Soap.....	1	Tinware, not elsewhere specified.....	2
Models and patterns, not including paper patterns.....	1	Paving materials.....	3	Soda-water apparatus.....	1	Tools, not elsewhere specified.....	3
Motorcycles, bicycles, and parts.....	5	Perfumery and cosmetics.....	3	Sporting and athletic goods.....	1	Toys and games.....	1
Mucilage and paste.....	1	Pickles, preserves, and sauces.....	3	Stationery goods, not elsewhere specified.....	1	Trunks and valises.....	5
Musical instruments and materials, not specified.....	1	Plumbers' supplies, not elsewhere specified.....	1	Steam fittings and steam and hot-water heating apparatus.....	2	Upholstering materials, not elsewhere specified.....	1
Musical instruments, pianos.....	1	Printing materials.....	1	Steam packing.....	2	Varnishes.....	3
Oil, linseed.....	2	Regalia and society badges and emblems.....	1	Stoves and hot-air furnaces, except gas and oil stoves.....	3	Window shades and fixtures.....	2
Oil, not elsewhere specified.....	1	Roofing materials.....	2			Wirework.....	3
		Sand and emery paper and cloth.....	1			Wooden goods, not elsewhere specified.....	2



## MANUFACTURES—MINNESOTA.

TABLE 35.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.				
						Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.			
									Maximum month.	Minimum month.								
1	HIBBING.....	27	110	36	1	5	3	65	Ja <sup>4</sup>	71	Se	61	62	53	9	.....	.....	\$101,479
2	MANKATO.....	64	1,012	63	55	88	51	755	My	846	Ja	631	764	645	119	.....	.....	2,777,118
3	ST. CLOUD.....	77	1,626	98	39	45	15	1,429	Jy	1,513	Ja	1,320	1,482	1,369	112	1	.....	1,923,351
4	STILLWATER.....	34	789	30	33	92	13	621	Fe	781	Oc	417	757	588	155	11	3	2,569,043
5	WINONA.....	91	2,554	69	128	209	78	2,070	Au	2,175	No	1,962	2,131	1,687	435	4	5	12,013,466

CITIES OF 10,000 TO 50,000 INHABITANTS <sup>2</sup> —ALL INDUSTRIES COMBINED.																		
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

CITIES OF 10,000 TO 50,000 INHABITANTS<sup>2</sup>—ALL INDUSTRIES COMBINED.<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.

# MANUFACTURES—MINNESOTA.

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OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.							Value of products.	Value added by manufacture.	POWER.						
Salaries and wages.			For contract work.	Rent and taxes.		For materials.			Primary horsepower.					Electric horsepower generated in establishments reporting.	
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.			Fuel and rent of power.	Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>		Electric (rented).

## CITIES OF 10,000 TO 50,000 INHABITANTS<sup>2</sup>—ALL INDUSTRIES COMBINED.

\$1,200	\$8,540	\$53,822	.....	\$7,220	\$3,016	\$109,095	\$3,322	\$254,400	\$141,983	28	.....	.....	28	1	1
98,399	117,753	434,110	\$746	14,758	28,404	3,121,257	95,534	4,344,114	1,127,323	2,618	2,094	27	.....	497	110
66,775	55,259	864,482	4,542	9,604	30,952	1,215,390	72,619	2,695,492	1,407,477	3,724	1,143	111	640	1,830	85
46,786	62,502	294,800	8,742	6,049	27,300	1,173,457	32,805	1,876,877	670,615	1,012	568	64	24	356	201
310,083	277,126	1,152,241	5,723	20,387	142,411	9,811,448	226,609	14,304,780	4,266,723	6,438	4,144	.....	65	2,229	1,124

<sup>1</sup> Excludes Virginia, to avoid disclosure of individual operations.

<sup>2</sup> Same number reported for one or more other months.

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES  
1914

MISSISSIPPI

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

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## EXPLANATION OF TERMS.

**Scope of census.**—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

**Period covered.**—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

As a rule, the same designation is used for the industry wherever it appears, although all of the products indicated by this designation were not manufactured in the state or city for which these statistics are presented. In some instances the wording is changed so as to more correctly describe the products represented. For a number of industries subclasses are shown which indicate more definitely the kind of products.

**Selected industries.**—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

**Comparisons with previous censuses.**—Owing to changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. At the census of 1909 the figures for kindred industries were combined. This practice, as a rule, has been followed in compiling the statistics of 1914 when placed in comparison with those for 1909 and prior years. The comparative summary for 1914, 1909, and 1904, therefore, does not show separately all the industries given for 1914 in the detailed statement for the state.

**Influence of increased prices.**—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

**Persons engaged in the industry.**—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined for any state, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation. This total, however, is shown for the different cities, because the limited area and greater regularity of employment largely overcame the objection incident to its publication for the separate states or the United States.

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added to give the average distribution for each state as a whole and for the entire country.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work in any industry if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Rent and taxes.**—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was therefore given.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

**Primary horsepower.**—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

# MISSISSIPPI.

By JOHN L. KUHN.

## GENERAL STATISTICS.

General character of the state.—Mississippi was admitted to the Union as a state in 1817. With a gross area of 46,865 square miles, of which 46,362 represent land surface, it ranks thirty-first in size among the states. Its inhabitants in 1900 numbered 1,551,270, and in 1910, 1,797,114; and its estimated population in 1914 was 1,902,000. In total population Mississippi ranked twenty-first in 1910; and in density of population it ranked twenty-sixth, with 38.8 inhabitants per square mile, the corresponding number in 1900 being 33.5.

The urban population in 1910—that is, the population residing in incorporated places having 2,500 inhabitants or more—was 207,311, or 11.5 per cent of the total, as against 7.7 per cent in 1900. There were in the state in 1914 eight cities, each having a population estimated at more than 10,000—Columbus, Greenville, Hattiesburg, Jackson, Laurel, Meridian, Natchez, and Vicksburg. These cities, whose aggregate population in that year formed 6.8 per cent of the estimated population of Mississippi, reported 23.4 per cent of the value of the state's manufactured products.

The steam-railway mileage in 1914 was 4,441, and the electric-railway mileage in 1912 was 109. The

Mississippi River, which forms the western boundary, and a number of ports on the Gulf of Mexico together constitute a factor of great importance in the transportation system of the state.

Mississippi is preeminently an agricultural state. The total value of all farm crops grown in 1909 was \$147,315,621, the leading ones being cotton (including cotton seed), \$96,353,433, and corn, \$26,030,376. The state's production of cotton from the crop of 1914 was 1,245,535 equivalent 500-pound bales, or 7.7 per cent of the total yield in the United States.

Importance and growth of manufactures.—In 1914, measured by the value of products of its manufacturing industries—\$79,550,095—Mississippi ranked thirty-ninth among the states and, with an average of 46,702 wage earners engaged in such industries, the state ranked thirty-first in this respect. In 1909 the state ranked thirty-fourth in value of products and thirty-first in average number of wage earners.

Table 1 summarizes the more important data relative to all classes of manufactures combined, in the state, for the censuses of 1914, 1909, 1904, and 1899, and gives percentages of increase from census to census.

	MANUFACTURING INDUSTRIES.				PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	2,209	2,598	1,520	1,294	-15.0	70.9	17.5
Persons engaged.....	52,277	50,761	42,906	( <sup>2</sup> )	-7.9	32.1	.....
Proprietors and firm members.....	2,386	2,974	1,588	( <sup>2</sup> )	-19.8	87.3	.....
Salaried employees.....	3,189	3,403	2,688	1,260	-6.3	26.6	113.3
Wage earners (average number).....	46,702	50,384	38,690	26,799	-7.3	30.2	44.4
Primary horsepower.....	186,434	200,222	110,338	65,738	-9.6	86.9	67.8
Capital.....	\$81,005,484	\$72,393,485	\$50,256,309	\$22,712,186	11.9	44.0	121.3
Salaries and wages.....	23,007,760	22,421,367	17,417,380	9,002,544	2.6	28.7	93.5
Salaries.....	3,831,133	3,653,644	2,598,346	1,092,937	4.8	40.6	137.7
Wages.....	19,176,627	18,767,723	14,819,034	7,909,607	2.2	26.6	87.4
Paid for contract work.....	2,075,852	2,591,240	1,150,796	( <sup>2</sup> )	-19.9	125.2	.....
Rent and taxes (including internal revenue).....	1,320,197	804,930	454,506	( <sup>2</sup> )	64.0	.....	.....
Cost of materials.....	41,340,122	36,925,582	25,800,885	16,543,029	12.0	43.1	56.0
Value of products.....	79,550,095	80,555,410	57,451,445	33,718,517	-1.2	40.2	70.4
Value added by manufacture (value of products less cost of materials).....	38,209,973	43,629,828	31,650,560	17,175,488	-12.4	37.8	84.3

<sup>1</sup> A minus sign (-) denotes decrease.

<sup>2</sup> Figures not available.

<sup>3</sup> Exclusive of internal revenue.

Each of the items in this table shows an increase from 1899 to 1904, 1904 to 1909, and from 1904 to 1914. The percentages of decrease shown from 1909 to 1914 in the several items do not in every case reflect a proportionate decrease in the manufacturing activities of the state. In number of establishments the decrease is 15 per cent, which is due primarily to the fact that at the census of 1909 a large number of reports were secured from small lumber mills. Mills

engaged exclusively in custom sawing for consumption in the immediate neighborhood should not be included in the census, but it is not always possible to conduct the enumeration in regard to these establishments on uniform lines at different censuses. This condition, together with the fact that new labor-saving machinery has been installed, as indicated by the increase in capital, accounts for the decrease in the number of employees.

## MANUFACTURES—MISSISSIPPI.

Table 2 shows the relative importance of the leading manufacturing industries in 1914, and gives percentages of increase for the three five-year periods from 1899 to 1914.

Separate statistics are presented for 21 industries, or industry groups, for each of which products valued at more than \$125,000 were reported for 1914. These industries include 1 with products exceeding \$35,000,000, 1 with products between \$15,000,000 and \$20,000,000, 9 between \$1,000,000 and \$5,000,000, and 10 with products valued at less than \$1,000,000.

In addition to the industries presented separately in the table, there were four others in the state which reported products in 1914 in excess of some of those shown in the table. These industries, which are included under the head of "all other industries" to avoid disclosing the operations of individual establishments, are as follows: Cars, steam-railroad, not including operations of railroad companies; clothing, men's; hosiery and knit goods; and paper and wood pulp.

Table 2

Table 2	INDUSTRY.	CENSUS OF 1914.						PER CENT OF INCREASE. <sup>1</sup>									
		Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
			Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
	All industries.....	2,209	46,702	100.0	\$79,550,095	100.0	\$38,209,973	100.0	-7.3	30.2	44.4	-1.2	40.2	70.4	-12.4	37.8	84.3
	Lumber and timber products.....	1,296	29,640	63.5	38,537,743	48.4	23,681,893	62.0	-11.2	48.9	43.2	-0.9	63.6	57.0	-17.2	49.2	91.7
	Oil, cottonseed, and cake.....	67	2,336	5.0	17,599,651	22.1	3,162,023	8.3	-6.7	0.2	64.3	10.2	26.8	88.4	-16.7	50.9	47.7
	Cars and general shop construction and repairs by steam-railroad companies.....	15	3,278	7.0	3,682,100	4.6	2,189,199	5.7	27.4	-3.1	72.9	13.9	12.0	116.8	20.8	16.5	79.2
	Cotton goods.....	11	1,989	4.3	2,789,007	3.5	977,007	2.5	-24.8	22.4	29.0	-10.1	25.9	67.2	-7.9	30.2	15.3
	Fertilizers.....	11	379	0.8	2,059,786	2.6	454,801	1.2	-15.6	29.0	.....	-3.1	96.4	119.5	-38.5	228.0	49.0
	Turpentine and rosin.....	61	3,275	7.0	1,997,139	2.5	1,416,960	3.7	27.3	-2.3	15.1	35.4	-37.7	33.5	25.9	-42.9	83.6
	Canning and preserving.....	18	1,052	2.3	1,654,772	2.1	777,577	2.0	24.2	11.9	16.5	100.8	-45.3	66.0	145.8	-33.3	64.0
	Wood preserving.....	4	241	0.5	1,478,528	1.9	417,511	1.1	-8.4	.....	.....	12.5	.....	.....	-37.0	.....	.....
	Printing and publishing.....	219	663	1.4	1,206,730	1.6	953,081	2.4	-0.9	34.1	8.7	-3.1	42.8	26.7	-5.5	39.8	25.2
	Mineral and soda waters.....	80	308	0.7	1,066,364	1.3	500,247	1.3	61.2	63.2	.....	89.9	90.2	383.6	52.0	66.8	378.0
	Ice, manufactured.....	58	476	1.0	1,045,940	1.3	719,037	1.9	39.6	24.4	77.9	20.8	43.6	120.1	10.0	42.6	119.1
	Bread and other bakery products.....	83	306	0.7	919,007	1.2	404,681	1.0	7.4	78.1	.....	4.7	76.0	195.3	11.6	52.1	106.5
	Foundry and machine-shop products.....	43	423	0.9	699,444	0.9	437,042	1.1	-27.4	13.0	51.3	-35.8	18.3	87.8	-29.1	0.2	93.8
	Brick and tile, terra-cotta, and fire-clay products.....	38	551	1.2	512,777	0.6	325,234	0.9	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Carriages and wagons and materials.....	23	210	0.4	479,436	0.6	255,947	0.7	-42.5	14.8	39.5	-25.4	30.0	63.6	-30.5	31.0	64.3
	Flour-mill and gristmill products.....	17	48	0.1	410,332	0.5	66,054	0.2	.....	.....	.....	168.0	39.1	-73.3	207.6	40.0	-69.4
	Gas, illuminating and heating.....	8	113	0.2	291,959	0.4	181,314	0.5	11.9	.....	.....	14.1	104.8	52.4	0.8	97.7	32.3
	Food preparations, not elsewhere specified.....	5	19	( <sup>2</sup> )	201,376	0.3	35,692	0.1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Copper, tin, and sheet-iron work.....	18	82	0.2	190,945	0.2	100,490	0.3	.....	.....	.....	-9.5	.....	.....	-15.8	.....	.....
	Marble and stone work.....	13	58	0.1	149,404	0.2	72,886	0.2	.....	.....	.....	-15.3	.....	.....	-25.3	.....	.....
	Saddlery and harness.....	10	24	( <sup>2</sup> )	146,914	0.2	48,770	0.1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	All other industries.....	111	1,231	2.6	2,370,741	3.0	1,032,577	2.7	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Percentages are based on figures in Table 30; a minus sign (-) denotes decrease. Not given.

<sup>2</sup> Less than one-tenth of 1 per cent.

Percentages are omitted when base is less than 100, or when comparable figures can

The industries in this table are arranged in the order of their importance as shown by value of products, but the arrangement would vary considerably if based on average number of wage earners or value added by manufacture. Lumber and timber products and carriages and wagons and materials ranked alike in all three respects. Oil, cotton seed, and cake, second in value of products and value added by manufacture, was fourth in average number of wage earners. Cars and general shop construction and repairs by steam-railroad companies, third in value of products and value added by manufacture, was second in average number of wage earners. Cotton goods, fourth in value of products, was fifth in average number of wage earners and value added by manufacture. Fertilizers, fifth in value of products, was eleventh in average number of wage earners and tenth in value added by manufacture.

In rank according to value of products there were few changes among the important industries in 1914 as compared with 1909. Of the industries shown in the table, lumber and timber products, oil, cottonseed, and cake; cars and general shop construction and repairs by steam-railroad companies; cotton goods; fertilizers; and turpentine and rosin held the same rank in value of products at both censuses. For the remainder of the industries slight changes are noticeable from census to census.

*Lumber and timber products.*—This industry, as shown in the table, embracing not only logging operations and sawmills, but also wooden-box factories, is by far the most important industry in Mississippi, not only as to value of products, but also in number of wage earners employed.

During the five-year period 1909-1914 there was a slight decrease in the total value of products from



\$42,792,844 to \$38,537,743, or 9.9 per cent. The number of establishments decreased from 1,647 to 1,296, or 21.3 per cent; the average number of wage earners, from 33,397 to 29,640, or 11.2 per cent; and the value added by manufacture, from \$28,586,246 to \$23,681,893, or 17.2 per cent.

*Oil, cottonseed, and cake.*—Second in importance in the state, this industry, which includes all establishments engaged primarily in extracting oil from cotton seed or in refining the oil, shows a fair increase in value of products in 1914 as compared with 1909, but a falling off in number of establishments, wage earners, and value added by manufacture.

The value of products advanced from \$15,965,543 to \$17,599,651, or 10.2 per cent, while the number of establishments decreased from 87 to 67, or 23 per cent; the average number of wage earners, from 2,503 to 2,336, or 6.7 per cent; and the value added by manufacture from \$3,796,872 to \$3,162,023, or 16.7 per cent.

*Cars and general shop construction and repairs by steam-railroad companies.*—This industry is third in importance in this state, and the value of products, which is equivalent to the cost of repairs to rolling stock and equipment, increased from \$3,233,288 in 1909 to \$3,682,100 in 1914, or 13.9 per cent; the number of establishments increased by 5; the average number of wage earners, by 706, or 27.4 per cent; the value added by manufacture, \$377,443, or 20.8 per cent.

*Cotton goods.*—The number of establishments reporting in 1914 was smaller by 3 than the number in 1909 and there were decreases in other respects, as shown by the statistics given in the table.

*Fertilizers.*—This industry, ranking fifth in value of products, includes only establishments engaged primarily in the manufacture of fertilizers. A number of cottonseed-oil mills produce fertilizers as by-products, and therefore the statistics for the independent establishments do not fully represent the statistics for the industry. There was a slight decrease in value of products in 1914 as compared with 1909, but compared with 1904 there was an increase of 90.3 per cent.

*Turpentine and rosin.*—Although there was a slight decrease in the number of establishments reported for this industry in 1914 as compared with 1909, there were decided increases in other respects. The average number of wage earners advanced from 2,573 to 3,275, or 27.3 per cent, and the value of products from \$1,474,629 to \$1,997,139, or 35.4 per cent.

*Canning and preserving.*—This classification covers the canning and preserving of fruits, vegetables, fish, and oysters, and the manufacture of pickles and sauces. Considering the short season during which this industry is active, the value of its products compared with other industries is very large, and it shows a marked increase during the five-year period 1909–1914.

**Persons engaged in manufacturing industries.**—Table 3 shows, for 1914 and 1909, the number of persons engaged in manufactures, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

**Table 3**

CLASS.	Census year.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.				
		Total.	Male.	Female.	Per cent of total.	
					Male.	Female.
All classes .....	1914	52,277	50,010	2,267	95.7	4.3
	1909	56,761	54,057	2,704	95.2	4.8
Proprietors and officials .....	1914	3,806	3,755	51	98.7	1.3
	1909	4,665	4,603	62	98.7	1.3
Proprietors and firm members ..	1914	2,386	2,340	46	98.1	1.9
	1909	2,974	2,918	56	98.1	1.9
Salaried officers of corporations ..	1914	376	373	3	99.2	0.8
	1909	305	302	3	99.0	1.0
Superintendents and managers ..	1914	1,044	1,042	2	99.8	0.2
	1909	1,386	1,383	3	99.8	0.2
Clerks and other subordinate salaried employees.	1914	1,769	1,576	193	89.1	10.9
	1909	1,712	1,556	156	90.9	9.1
Wage earners (average number) .....	1914	46,702	44,679	2,023	95.7	4.3
	1909	50,384	47,898	2,486	95.1	4.9
16 years of age and over .....	1914	46,069	44,165	1,904	95.9	4.1
	1909	49,326	47,287	2,039	95.9	4.1
Under 16 years of age .....	1914	633	514	119	81.2	18.8
	1909	1,058	611	447	57.8	42.2

In 1914 the number of persons engaged in manufactures was 52,277, of whom 46,702, or nearly nine-tenths, were wage earners, 3,806 were proprietors and officials, and 1,769 were clerks and other subordinate salaried employees. Of the wage earners 16 years of age and over, 44,165 were males and 1,904, or less than one-twentieth, were females. Figures for the sex and age distribution of wage earners for individual industries will be found in Table 31.

Table 4 gives, for the several classes of persons engaged in manufactures, the percentages of increase from 1909 to 1914 and the per cent distribution at the two censuses.

This table shows decreases for the five-year period in each of the several classes of employees, with the exception of salaried officers of corporations and clerks and other subordinate salaried employees.

The largest percentage of decrease is found in the average number of wage earners under 16 years of age, the decrease for females being 73.4 per cent, and the total for both sexes, 40.2 per cent. Of the total number of persons engaged in manufacturing industries, wage earners 16 years of age and over formed 88.1 per cent in 1914, and 86.9 per cent in 1909. The average number of female wage earners under 16 years of age was only 5.2 per cent of the total number in 1914, as against 16.5 per cent in 1909.

## MANUFACTURES—MISSISSIPPI.

Table 4

Table 4	CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
		Per cent of increase, <sup>1</sup> 1909-1914.			Per cent distribution.					
		Total.	Male.	Female.	Total.		Male.		Female.	
					1914	1909	1914	1909	1914	1909
All classes.....	-7.9	-7.5	-16.2	100.0	100.0	100.0	100.0	100.0	100.0	
Proprietors and officials.....	-18.4	-18.4	.....	7.3	8.2	7.5	8.5	2.2	2.3	
Proprietors and firm members.....	-19.8	-19.8	.....	4.6	5.2	4.7	5.4	2.0	2.1	
Salaried officers of corporations.....	23.3	23.5	.....	0.7	0.5	0.7	0.6	0.1	0.1	
Superintendents and managers.....	-24.7	-24.7	.....	2.0	2.4	2.1	2.6	0.1	0.1	
Clerks and other subordinate salaried employees.....	3.3	1.3	23.7	3.4	3.0	3.2	2.9	8.5	5.8	
Wage earners (average number).....	-7.3	-6.7	-18.6	89.3	88.8	89.3	88.6	89.2	91.9	
16 years of age and over.....	-6.6	-6.6	-6.6	88.1	86.9	88.3	87.5	84.0	75.4	
Under 16 years of age.....	-40.2	-15.9	-73.4	1.2	1.9	1.0	1.1	5.2	16.5	

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted when base is less than 100.

In order to compare the distribution of persons engaged in manufactures in 1914 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See "Explanation of terms.") Table 5 makes this comparison according to occupational status.

Table 5

Table 5	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
	CLASS.	Number.			Per cent distribution.			Per cent of increase. <sup>1</sup>	
		1914	1909	1904	1914	1909	1904	1909-1914	1904-1909
Total.....	52,277	56,761	42,966	100.0	100.0	100.0	-7.9	32.1	
Proprietors and firm members.....	2,386	2,974	1,588	4.6	5.2	3.7	-19.8	87.3	
Salaried employees.....	3,189	3,403	2,688	6.1	6.0	6.3	-6.3	26.6	
Wage earners (average).....	46,702	50,384	38,690	89.3	88.8	90.0	-7.3	30.2	

<sup>1</sup> A minus sign (-) denotes decrease.

Each of the classes as well as the total for all classes combined shows increases for the five-year period 1904-1909 and decreases for the five-year period 1909-1914. The class of proprietors and firm members shows the largest per cent of increase for the earlier period and the largest per cent of decrease for the later period. Salaried employees show the least fluctuation for each period.

The average number of wage earners employed and their per cent distribution as males 16 years of age and over, females 16 years of age and over, and children under 16 years of age is given in Table 6 for 1914, 1909, and 1904.

The table also shows, for some of the important industries separately, a similar distribution of wage earners for 1914 and 1909.

For all industries combined the proportion of male wage earners 16 years of age and over has been greater at each successive census, while the proportion of children under 16 has decreased. The proportion of females 16 years of age and over shows a decrease from 1904 to 1909, but a slight increase from 1909 to 1914. The per cent of total for males 16 years of age and over

and for females of the same age period increased from 93.9 per cent to 94.6 per cent and from 4 per cent to 4.1 per cent, respectively, while during the same period the proportion for children under 16 decreased from 2.1 per cent to 1.3 per cent.

Table 6

INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Per cent of total.		
			16 years of age and over.		Under 16 years of age.
			Male.	Female.	
All industries.....	1914 1909 1904	46,702 50,384 38,690	94.6 93.9 91.4	4.1 4.0 5.3	1.3 2.1 3.3
Bread and other bakery products.....	1914 1909	306 285	93.4 90.2	2.5 4.9	4.1 4.9
Canning and preserving.....	1914 1909	1,052 847	37.3 40.1	56.6 38.3	6.1 21.6
Cars and general shop construction and repairs by steam-railroad companies.....	1914 1909	3,278 2,572	99.4 99.9	0.6 0.1	..... .....
Cotton goods.....	1914 1909	1,989 2,045	50.2 38.0	40.3 41.7	9.5 20.3
Fertilizers.....	1914 1909	379 449	100.0 100.0	..... .....	..... .....
Foundry and machine-shop products.....	1914 1909	423 583	99.2 100.0	0.5 .....	0.3 .....
Ice, manufactured.....	1914 1909	476 341	96.2 94.7	..... .....	3.8 5.3
Lumber and timber products.....	1914 1909	29,640 33,397	99.5 99.6	0.1 ( <sup>2</sup> )	0.4 0.4
Mineral and soda waters.....	1914 1909	308 191	94.1 92.7	2.3 2.1	3.6 5.2
Oil, cottonseed, and cake.....	1914 1909	2,336 2,503	99.5 99.6	0.2 0.4	0.3 .....
Printing and publishing.....	1914 1909	663 736	75.4 81.7	10.3 13.3	14.3 5.0
Turpentine and rosin.....	1914 1909	3,275 2,573	98.1 97.7	0.6 0.6	1.3 1.7
All other industries.....	1914 1909	2,577 3,262	84.1 83.0	13.2 14.0	2.7 3.0

<sup>1</sup> For method of estimating the distribution, by sex and age periods, of the average number for all industries combined, see "Explanation of terms."

<sup>2</sup> Less than one-tenth of 1 per cent.

Of the 12 industries for which separate figures are given in this table, 5 show increases from 1909 to 1914 in the proportion of males and 5 show increases in the proportion of females, while 3 show an increase

in the proportion of children under 16 years of age. In the canning and preserving industry for 1914, as compared with 1909, there was an increase in the proportion of women and a corresponding decrease in the proportion of children. Cotton goods, also, shows a large reduction in the proportion of children employed in 1914, as compared with 1909.

Table 7 shows the average number and the per cent distribution of wage earners employed in each of the eight cities having more than 10,000 inhabitants, classified according to age periods, and in the case of those 16 years of age and over, according to sex, for 1914, 1909, and 1904.

SEX AND AGE.	AVERAGE NUMBER OF WAGE EARNERS IN—							
	Columbus.	Greenville.	Hattiesburg.	Jackson.	Laurel.	Meridian.	Natchez.	Vicksburg.
<b>Total:</b>								
1914.....	521	671	587	943	2,129	1,974	297	1,009
1909.....			648	1,772		1,524	428	1,202
1904.....						1,346	316	1,031
<b>16 years of age and over:</b>								
Male—								
1914.....	455	667	560	895	1,868	1,722	264	947
1909.....			645	1,740		1,366	333	1,172
1904.....						1,274	296	1,002
Female—								
1914.....	49	1	4	23	173	204	16	54
1909.....			3	15		120	72	17
1904.....						47	9	7
<b>Under 16 years of age:</b>								
1914.....	17	3	23	25	88	48	17	8
1909.....				17		38	23	13
1904.....						25	11	22
<b>Per cent of total:</b>								
<b>16 years of age and over—</b>								
Male—								
1914.....	87.3	99.4	95.4	94.9	87.7	87.2	88.9	93.9
1909.....			99.5	95.9		89.6	77.8	97.5
1904.....						94.6	93.7	97.2
Female—								
1914.....	9.4	0.1	0.7	2.4	8.1	10.3	5.4	5.4
1909.....			0.5	1.9		7.9	16.8	1.4
1904.....						3.5	2.8	0.7
<b>Under 16 years of age:</b>								
1914.....	3.3	0.4	3.9	2.7	4.1	2.4	5.7	0.8
1909.....				2.2		2.5	5.4	1.1
1904.....						1.9	3.5	2.1

<sup>1</sup> Figures do not agree with those published, because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

For Columbus, Greenville, and Laurel figures are not available except for 1914, and for Hattiesburg and Jackson none are available for 1904. The cities of Jackson and Meridian show increases during the five-year periods compared, for each of the three classes; Meridian alone of those reporting shows an increase for the ten-year period 1904-1914. For these two cities there was a decrease during the periods compared in the proportion of males 16 years of age and over and a corresponding increase in the proportion of each of the other two classes, with the exception of children under 16 years of age in Meridian for the period 1909-1914.

Natchez and Vicksburg each shows a substantial increase in the total number of wage earners and in the males 16 years of age and over for the five-year

period 1904-1909 but a decrease in both classes for the subsequent five-year period.

**Wage earners employed, by months.**—The following table gives, for all industries combined, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

Table 8

MONTH.	WAGE EARNERS IN MANUFACTURING INDUSTRIES.					
	Number. <sup>1</sup>			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	48,363	49,148	38,301	100.0	87.1	92.6
February.....	47,519	49,511	37,796	98.3	87.7	91.4
March.....	47,810	49,839	39,154	98.9	88.3	94.7
April.....	47,290	47,851	39,604	97.8	84.8	95.8
May.....	45,296	45,178	38,011	93.7	80.1	91.9
June.....	45,097	45,198	37,334	93.2	80.1	90.3
July.....	46,143	47,237	36,748	95.4	83.7	88.9
August.....	47,304	50,341	36,725	97.8	89.2	88.8
September.....	48,010	53,195	38,323	99.3	94.3	92.7
October.....	47,774	55,387	41,348	98.8	98.1	93.9
November.....	45,881	50,436	41,353	94.9	100.0	100.0
December.....	43,937	55,285	39,583	90.8	98.0	95.7

<sup>1</sup> The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

For 1904 and 1909 the last three months of the year show the greatest activity in the combined industries of the state, the maximum number of wage earners appearing for November in both years. The year 1914 shows the least fluctuation in the number of wage earners employed and also shows a different season of activity, the maximum month being January, whereas in 1904 and 1909 the employment of wage earners was comparatively small for this month. The greatest difference between the maximum and minimum months in any one of the three census years was 11,258 in 1909.

Table 9 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for the combined industries of the state, for a number of selected industries, and for the total industries of each of the eight cities having more than 10,000 inhabitants.

Of the selected industries canning and preserving shows the greatest degree of fluctuation, the number of wage earners in June being but 6.9 per cent of the number in October. The least fluctuation is shown for turpentine and rosin for which the proportion the minimum formed of the maximum was 93.9 per cent. Of the eight cities, Greenville shows the greatest fluctuation, the proportion that the minimum formed of the maximum being 61.3 per cent. The most constant employment of wage earners appears for Meridian, where the proportion is 90.2 per cent.

## MANUFACTURES—MISSISSIPPI.

Table 9

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by boldface figures and that of minimum by italics.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	46,702	<b>48,363</b>	47,519	47,810	47,290	45,296	45,097	46,143	47,304	48,010	47,774	45,881	<i>43,937</i>	90.8
Bread and other bakery products.....	306	301	301	304	304	305	307	300	<i>300</i>	311	325	306	308	92.3
Canning and preserving.....	1,052	1,061	1,077	1,214	1,194	309	<i>124</i>	239	1,311	1,542	<b>1,799</b>	1,495	1,259	6.9
Cars and general shop construction and repairs by steam-railroad companies.....	3,278	<b>3,508</b>	3,394	3,426	3,389	3,154	3,234	3,253	3,364	3,330	3,282	3,157	<i>2,845</i>	81.1
Cotton goods.....	1,989	2,048	<b>2,053</b>	2,015	2,031	2,026	1,996	1,926	<i>1,902</i>	1,945	2,006	1,936	1,934	92.6
Ice, manufactured.....	476	<i>255</i>	261	299	474	619	732	708	694	613	446	337	274	34.8
Lumber and timber products.....	29,640	29,770	29,498	30,112	30,365	30,206	30,197	31,147	<b>31,310</b>	30,657	28,629	27,505	<i>26,234</i>	83.9
Oil, cottonseed, and cake.....	2,336	3,794	3,231	2,505	1,491	860	<i>754</i>	778	835	2,020	3,862	3,938	3,964	19.0
Turpentine and rosin.....	3,275	<i>3,165</i>	3,189	3,246	3,302	3,312	3,362	3,372	3,351	3,310	3,275	3,210	3,200	93.9
All other industries.....	4,350	4,461	4,515	4,689	<b>4,740</b>	4,505	4,391	4,420	4,237	4,282	4,150	3,991	<i>3,819</i>	80.0
Total for cities.....	8,131	8,526	8,087	8,385	8,107	7,893	7,795	7,881	<i>7,782</i>	8,225	<b>8,554</b>	8,287	8,050	91.0
COLUMBUS.....	521	547	558	489	539	519	<i>475</i>	477	525	523	530	527	543	85.1
GREENVILLE.....	671	683	622	802	651	621	562	604	<i>514</i>	624	718	813	838	61.3
HATTIESBURG.....	587	637	636	628	608	573	564	583	538	532	591	578	<i>530</i>	82.6
JACKSON.....	943	<i>1,027</i>	996	1,035	908	<i>819</i>	842	863	866	921	<b>1,085</b>	997	957	75.5
LAUREL.....	2,129	<b>2,272</b>	<i>1,009</i>	2,095	2,208	2,126	2,150	2,161	2,131	2,209	2,205	2,091	1,991	81.0
MERIDIAN.....	1,974	2,037	<b>2,066</b>	2,019	1,997	2,021	1,995	1,976	1,929	1,907	1,970	<i>1,863</i>	1,902	90.2
NATCHEZ.....	297	324	304	297	305	304	<i>256</i>	257	263	292	311	318	333	79.9
VICKSBURG.....	1,009	999	<i>996</i>	1,020	<i>891</i>	910	951	960	1,016	<b>1,167</b>	1,138	1,100	900	76.3

Prevailing hours of labor.—In Table 10 the average number of wage earners reported for 1914 and 1909, for all industries combined and for selected industries throughout the state, have been classified according to number of hours of labor per week prevailing in the establishments in which they were employed. A

similar classification is given, for 1914 only, for all industries combined in each city having more than 10,000 inhabitants. The number employed in each establishment is classified as a total, even though a few employees worked a greater or a smaller number of hours.

Table 10

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.								
		Total.	In establishments where the prevailing hours of labor per week were—							
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	1914	46,702	3,345	2,291	4,369	1,573	32,149	1,190	1,047	138
	1909	50,384	2,794	982	2,924	1,555	22,957	16,810	1,998	364
Bread and other bakery products.....	1914	306	4	4	5	38	135	98	10	12
	1909	285	12	.....	14	8	93	36	28	94
Canning and preserving.....	1914	1,052	496	.....	88	45	423	.....	.....	.....
	1909	847	11	.....	125	32	581	98	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.....	1914	3,278	.....	948	2,296	.....	34	.....	.....	.....
	1909	2,572	.....	522	1,577	.....	436	37	.....	.....
Cotton goods.....	1914	1,989	.....	.....	65	.....	1,024	.....	.....	.....
	1909	2,045	.....	.....	.....	118	1,434	1,093	.....	.....
Ice, manufactured.....	1914	476	25	.....	5	21	106	211	36	72
	1909	341	.....	.....	.....	.....	39	37	84	181
Lumber and timber products.....	1914	29,640	475	837	899	1,113	25,895	421	.....	.....
	1909	33,397	487	311	496	1,241	16,323	14,477	62	.....
Oil, cotton seed, and cake.....	1914	2,336	.....	26	43	173	334	178	1,573	9
	1909	2,503	.....	.....	.....	.....	50	632	1,788	33
Turpentine and rosin.....	1914	3,275	1,494	405	9	50	1,240	77	.....	.....
	1909	2,573	1,830	24	.....	.....	621	98	.....	.....
All other industries.....	1914	4,350	851	71	959	133	2,058	205	28	45
	1909	5,221	454	125	712	156	3,380	302	36	56
Total for cities.....	1914	8,131	385	166	2,079	276	4,378	329	460	58
COLUMBUS.....	1914	521	1	22	160	6	267	10	55	.....
GREENVILLE.....	1914	671	7	.....	17	14	466	21	143	.....
HATTIESBURG.....	1914	587	36	3	241	6	171	120	10	.....
JACKSON.....	1914	943	90	109	252	129	158	105	100	.....
LAUREL.....	1914	2,129	44	6	11	.....	2,052	16	.....	.....
MERIDIAN.....	1914	1,974	107	26	703	57	1,027	14	18	22
NATCHEZ.....	1914	297	35	.....	27	51	96	19	44	25
VICKSBURG.....	1914	1,009	65	.....	668	13	141	24	87	11

The figures in this table, for the state as a whole and for most of the selected industries, emphasize the tendency toward a shortening of the working day of wage earners. In 1909, 19,172, or nearly two-fifths of the total average number of wage earners for all industries combined, were employed in establishments where the prevailing hours of labor were more than 60 per week, while but 2,975, or only about one-sixteenth, were so employed in 1914. On the other hand, the number of wage earners in establishments where the prevailing hours were 60 or under per week, increased from 31,212 in 1909 to 43,727 in 1914, forming 61.9 per cent and 93.6 per cent, respectively, of the total number in the state. For the state as a whole, there was a marked increase during the five-year period in the proportion of wage earners in the class employed 60 hours per week, and the greatest decrease is shown in the class employed between 60 and 72 hours.

Among the separate industries, lumber and timber shows the most pronounced decrease in hours of labor. In 1909, 43.5 per cent of the wage earners in this industry were employed in establishments where the hours of labor were more than 60 per week, but in 1914 the proportion had decreased to 1.4 per cent.

In the cottonseed oil and cake industry in 1909, there were no establishments reporting their prevailing hours of labor as less than 60 per week, but in 1914, 10.4 per cent of the wage earners in this industry were employed in establishments where such hours prevailed.

For cars and general shop construction and repairs by steam-railroad companies, in 1909 the proportion of the wage earners employed where the prevailing hours were 60 or more amounted to 18.4 per cent as against 1 per cent in 1914.

Of the combined total average number of wage earners, 8,131, for the eight cities in 1914, 7,284, or 89.6 per cent, were employed in establishments where the prevailing hours were 60 and under per week, while only 847, or 10.4 per cent, were in establishments where the hours were more than 60 per week. In the city of Laurel, where lumber and timber is by far the most important industry, 2,052, or 96.4 per cent, of its wage earners were reported in the 60-hour class.

**Location of establishments.**—Table 11 shows, for 1914, 1909, and 1899, the extent to which the manufactures in Mississippi were centralized in the cities having more than 10,000 inhabitants.

Table 11	Census year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 OR OVER.						DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 OR OVER.	
			Total.		10,000 to 25,000.		25,000 to 100,000.			
			Number or amount.	Per cent of aggre- gate.	Number or amount.	Per cent of aggre- gate.	Number or amount.	Per cent of aggre- gate.	Number or amount.	Per cent of aggre- gate.
Number of places.....	1914 1910 1900	----- ----- -----	8 5 3	----- ----- -----	7 5 3	----- ----- -----	1 ----- -----	----- ----- -----	----- ----- -----	----- ----- -----
Population <sup>1</sup> .....	1914 1910 1900	1,001,882 1,797,114 1,551,270	128,858 88,885 41,004	6.8 4.9 2.6	101,851 88,885 41,094	5.4 4.9 2.6	27,007	1.4	1,773,024 1,708,229 1,510,176	93.2 95.1 97.4
Number of establishments.....	1914 1909 1899	2,209 2,598 1,294	274 201 82	12.4 7.7 6.3	225 201 82	10.2 7.7 6.3	49	2.2	1,935 2,397 1,212	87.6 92.3 93.7
Average number of wage earners.....	1914 1909 1899	46,702 50,384 26,799	8,131 4,574 2,469	17.4 9.1 9.2	7,188 4,574 2,469	15.4 9.1 9.2	943	2.0	38,571 45,810 24,330	82.6 90.9 90.8
Value of products.....	1914 1909 1899	\$79,550,095 80,555,410 33,718,517	\$18,622,566 11,791,611 4,407,113	23.4 14.6 13.1	\$14,997,498 11,791,611 4,407,113	18.8 14.6 13.1	\$3,625,068	4.6	\$60,927,529 68,763,799 29,311,404	76.6 85.4 86.9
Value added by manufacture.....	1914 1909 1899	38,209,973 43,629,828 17,175,488	7,647,337 5,003,122 1,995,613	20.0 11.5 11.6	6,536,269 5,003,122 1,995,613	17.1 11.5 11.6	1,111,068	2.9	30,562,636 38,626,706 15,179,875	80.0 88.5 88.4

<sup>1</sup> Census estimate of population for 1914.

In accepting the statistics in this table it must be remembered that some of the cities—Columbus, Greenville, and Laurel—that had a population of 10,000 and over at the census of 1914 were included with those for the outside districts at prior censuses. The table shows, however, that for 1914 the cities, which represented 6.8 per cent of the estimated population of the state, reported 23.4 per cent of the total value of products and 17.4 per cent of the total average number of wage earners.

The relative importance in manufactures of each of the eight cities having more than 10,000 inhabitants, as measured by average number of wage earners and by value of products, in 1914, 1909, and 1904, is shown in Table 12. The cities are listed in the order of their

importance as shown by value of products. Those for which comparative figures are not shown for 1909 and 1904 had less than 10,000 inhabitants in those years.

The manufacturing industries of Meridian show an increase in both value of products and average number of wage earners for each of the 5-year periods 1904–1909 and 1909–1914. For Jackson and Hattiesburg statistics are available for 1909 and 1914 only. In the former city there was an increase in each item, while in the latter there were decreases. Vicksburg and Natchez each show increases in value of products and also in average number of wage earners for the five-year period 1904–1909, but decreases in these items during the period 1909–1914.

Table 12 CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1914	1909	1904	1914	1909	1904
Meridian.....	1,974	1,524	1,346	\$4,738,703	\$4,237,476	\$3,267,600
Jackson.....	943	1,772	.....	3,625,068	1,2,950,812	.....
Laurel.....	2,129	.....	.....	3,372,292	.....	.....
Greenville.....	671	.....	.....	1,935,153	.....	.....
Vicksburg.....	1,009	1,202	1,031	1,672,907	2,229,344	1,887,924
Columbus.....	521	.....	.....	1,248,543	.....	.....
Hattiesburg.....	587	648	.....	1,133,927	1,250,892	.....
Natchez.....	297	428	316	895,913	1,114,087	819,729

<sup>1</sup> Figures do not agree with those published, because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

Laurel, although not having a sufficient population to be reported separately at prior censuses, in 1914 ranked first in average number of wage earners and third in value of products. Lumber and timber is the principal industry in this city, forming more than two-thirds of the total value of products.

In each of the cities of Meridian, Jackson, Greenville, Columbus, and Natchez the principal industry is cottonseed oil and cake.

The principal industries in Vicksburg are cars and general shop construction and repairs by steam-railroad companies and cottonseed oil and cake.

In Hattiesburg, fertilizers and cars and general shop construction and repairs by steam-railroad companies were the two leading industries for 1914.

It will be noted that in the ranking of all the cities, except Natchez, the number of wage earners varies from their ranking in value of products.

**Character of ownership.**—Table 13 presents statistics concerning character of ownership, or legal organization, of manufacturing enterprises. For all industries combined, comparative figures are given for 1914, 1909, and 1904; for selected industries, statistics for 1914 and 1909 are shown; and for individual cities the figures are for all industries combined and relate only to 1914. In order to avoid disclosing the operations of individual establishments, it is necessary to omit several important industries from this table.

INDUSTRY AND CITY.		Cen- sus year.	NUMBER OF - ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
						Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
							Indi- vidu- als.	Cor- pora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All others.		Indi- vidu- als.	Cor- pora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All others.	
			Indi- vidu- als.	Cor- pora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All others.	Indi- vidu- als.	Cor- pora- tions.	All others.			
All industries.....	1914	1,180	493	536	46,702	7,248	34,903	4,551	15.5	74.7	9.8	\$79,550,095	\$9,514,036	\$62,981,047	\$7,055,012	12.0	79.2	8.0					
	1909	1,353	555	690	50,384	9,779	33,467	7,138	19.4	66.4	14.2	80,555,410	11,674,333	58,719,954	10,161,123	14.5	72.9	12.6					
	1904	672	447	401	38,690	5,694	27,085	5,911	14.7	70.0	15.3	57,451,445	7,597,544	42,169,292	7,684,609	13.2	73.4	13.4					
Bread and other bakery products.	1914	66	2	15	306	208	.....	1 98	68.0	.....	32.0	919,007	647,090	.....	1 271,917	70.4	.....	21.6					
	1909	55	2	22	285	171	.....	1 114	60.0	.....	40.0	878,353	530,244	.....	1 348,109	60.4	.....	39.6					
Cars and general shop construction and repairs by steam-railroad companies.	1914	.....	15	.....	3,278	.....	3,278	.....	100.0	.....	.....	3,682,100	.....	3,682,100	.....	100.0	.....	.....					
	1909	.....	10	.....	2,572	.....	2,572	.....	100.0	.....	.....	3,233,288	.....	3,233,288	.....	100.0	.....	.....					
Cotton goods.....	1914	.....	11	.....	1,989	.....	1,989	.....	100.0	.....	.....	2,789,007	.....	2,789,007	.....	100.0	.....	.....					
	1909	.....	14	.....	2,645	.....	2,645	.....	100.0	.....	.....	3,102,398	.....	3,102,398	.....	100.0	.....	.....					
Ice, manufactured.....	1914	16	35	7	476	89	314	73	18.7	66.0	15.3	1,045,940	212,641	707,043	126,256	20.3	67.6	12.1					
	1909	8	36	7	341	38	265	38	11.1	77.7	11.1	866,358	90,778	708,203	67,377	10.5	81.7	7.8					
Lumber and timber products.	1914	738	179	379	29,640	5,475	20,650	3,515	18.5	69.7	11.9	38,537,743	6,016,804	27,871,491	4,649,448	15.6	72.3	12.1					
	1909	920	220	507	33,397	7,803	19,982	5,612	23.4	59.8	16.8	42,792,844	8,413,371	26,838,920	7,540,558	19.7	62.7	17.6					
Oil, cottonseed, and cake.	1914	1	61	5	2,336	.....	2,207	2 129	94.5	5.5	.....	17,599,651	.....	16,991,585	2 608,066	.....	96.5	3.5					
	1909	1	81	5	2,503	.....	2,364	2 139	94.4	5.6	.....	15,965,543	.....	15,331,818	2 633,725	.....	96.0	4.0					
Turpentine and rosin.....	1914	16	30	15	3,275	233	2,770	272	7.1	84.6	8.3	1,997,139	155,842	1,552,057	289,240	7.8	77.7	14.5					
	1909	15	27	22	2,573	242	1,943	388	9.4	75.5	15.1	1,474,629	159,349	1,063,691	251,589	10.8	72.1	17.1					
Total for cities.....	1914	94	124	56	8,131	616	6,971	544	7.6	85.7	6.7	18,622,566	1,400,018	15,926,569	1,295,979	7.5	85.5	7.0					
COLUMBUS.....	1914	11	10	6	521	83	412	26	15.9	79.1	5.0	1,248,543	159,572	1,036,937	52,034	12.8	83.0	4.2					
GREENVILLE.....	1914	9	11	5	671	53	516	102	7.9	76.9	15.2	1,935,153	97,014	1,579,039	259,100	5.0	81.6	13.4					
HATTIESBURG.....	1914	14	14	7	587	47	483	57	8.0	82.3	9.7	1,133,927	110,400	870,219	153,308	9.7	76.7	13.5					
JACKSON.....	1914	13	26	10	943	92	797	54	9.8	84.5	5.7	3,625,068	203,079	3,243,517	178,472	5.6	89.5	4.9					
LAUREL.....	1914	7	15	4	2,129	54	2,067	8	2.5	97.1	0.4	3,372,292	73,539	3,264,033	34,720	2.2	96.8	1.0					
MERIDIAN.....	1914	15	24	12	1,974	148	1,716	110	7.5	86.9	5.6	4,738,763	298,549	4,110,618	329,596	6.3	86.7	7.0					
NATCHEZ.....	1914	12	9	3	297	73	130	94	24.6	43.8	31.6	895,913	247,571	480,592	167,750	27.6	53.6	18.7					
VICKSBURG.....	1914	13	15	9	1,009	66	850	93	6.5	84.3	9.2	1,672,907	210,294	1,341,614	120,999	12.6	80.2	7.2					

<sup>1</sup> Includes the group "corporations."

<sup>2</sup> Includes the group "individuals."

This table shows for all industries combined, an increase during the decade, in the number of establishments throughout the state under each form of ownership. A decrease, however, is shown for the 1914 figures when compared with those for 1909, there being 389 fewer establishments at the later

census. The decrease in number of establishments does not reflect the decrease in manufacturing activities, for while the decrease in establishments amounted to 15 per cent, for value of products it amounted only to 1.2 per cent; and corporations, showing a decrease of 62 establishments, for value of products show an



increase of more than four million dollars. Although of the three classes of ownership, corporations show the smallest proportion of establishments, in value of products and average number of wage earners they largely predominate. In 1914, although only 22.3 per cent of the total number of establishments in the state were under corporate ownership, this class reported 79.2 per cent of the total value of products and 74.7 per cent of the total average number of wage earners. In 1909 and 1904 the corresponding proportions were only slightly less.

With the exception of bread and other bakery prod-

ucts, in each of the seven industries for which separate statistics are given, the value of products and also the average number of wage earners for corporate ownership is greater than for the other two groups combined. For each of the cities, in respect to value of products, this condition also prevails. In Laurel this is very pronounced, the value of products for corporations being 96.8 per cent of the total.

**Size of establishments.**—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is indicated by the statistics given in Table 14.

Table 14 VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904
All classes.....	2,209	2,598	1,520	46,702	50,384	38,690	\$79,550,095	\$80,555,410	\$57,451,445	\$38,209,973	\$43,629,828	\$31,650,560
Less than \$5,000.....	1,083	1,156	466	2,600	3,260	1,045	2,321,838	2,573,206	1,172,486	1,655,479	1,918,351	871,500
\$5,000 to \$20,000.....	617	785	519	5,156	6,838	4,351	6,294,551	8,089,215	5,551,093	4,069,108	5,717,616	3,872,381
\$20,000 to \$100,000.....	320	467	383	8,779	12,679	11,458	13,789,910	19,633,830	16,350,354	7,816,467	12,336,122	10,256,820
\$100,000 and over <sup>1</sup> .....	189	190	152	30,167	27,607	21,836	57,193,796	50,259,159	34,377,512	24,669,919	23,657,739	16,649,799
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	49.0	44.5	30.7	5.6	6.5	2.7	2.9	3.2	2.0	4.3	4.4	2.8
\$5,000 to \$20,000.....	27.9	30.2	34.1	11.0	13.6	11.2	7.9	10.0	9.7	10.6	13.1	12.2
\$20,000 to \$100,000.....	14.5	18.0	25.2	18.8	25.2	29.6	17.3	24.4	28.5	20.5	28.3	32.4
\$100,000 and over <sup>1</sup> .....	8.6	7.3	10.0	64.6	54.8	56.4	71.9	62.4	59.8	64.6	54.2	52.6

<sup>1</sup> Includes the group "\$1,000,000 and over."

For 1914, 189 establishments, or 8.6 per cent of the total number in the state, each reported products exceeding \$100,000 in value, as compared with 190, or 7.3 per cent of the total, in 1909, and 152, or 10 per cent, in 1904. In 1914 these establishments reported an average of 30,167 wage earners, or 64.6 per cent of the total for the state, 71.9 per cent of the total value of products, and 64.6 per cent of the total value added by manufacture. In the same year the small establishments—those having products of less than \$5,000 in value—representing 49 per cent of the total number

of establishments, reported only 2.9 per cent of the total value of products. For the establishments having products valued at \$100,000 and over, the proportion of the total shows an increase in value of products at each successive census, from 59.8 per cent in 1904 to 62.4 per cent in 1909 and 71.9 per cent in 1914.

Table 15 gives, for 1914 and 1909, for four of the more important industries, a classification of establishments, wage earners, value of products, and value added by manufacture, similar to that presented in Table 14 for all industries combined.

Table 15 INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.		AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
	1914	1909	1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.	
					1914	1909			1914	1909			1914	1909
COTTON GOODS.....	11	14	1,989	2,645	100.0	100.0	\$2,789,007	\$3,102,398	100.0	100.0	\$977,007	\$1,060,248	100.0	100.0
Less than \$100,000.....	3	13	175	1,127	8.8	4.8	210,591	1,158,036	7.6	5.1	78,391	1,65,954	8.0	6.2
\$100,000 to \$1,000,000.....	8	11	1,814	2,518	91.2	95.2	2,578,416	2,944,362	92.4	94.9	898,616	994,294	92.0	93.8
LUMBER AND TIMBER PRODUCTS.....	1,296	1,647	29,640	33,397	100.0	100.0	38,537,743	42,792,844	100.0	100.0	23,681,893	28,586,246	100.0	100.0
Less than \$5,000.....	719	805	2,060	2,610	7.0	7.8	1,437,869	1,698,245	3.7	4.0	1,066,797	1,319,164	4.5	4.6
\$5,000 to \$20,000.....	326	455	3,276	4,644	11.1	13.9	3,281,082	4,766,790	8.5	11.1	2,268,295	3,614,496	9.6	12.6
\$20,000 to \$100,000.....	166	299	5,231	8,460	17.6	25.3	7,250,250	12,495,579	18.8	29.2	4,470,090	8,679,012	18.9	30.4
\$100,000 and over <sup>1</sup> .....	85	88	19,073	17,683	64.3	52.9	26,567,942	23,832,230	68.9	55.7	15,876,711	14,973,574	67.0	52.4
OIL, COTTONSEED, AND CAKE.....	67	87	2,336	2,503	100.0	100.0	17,599,651	15,965,543	100.0	100.0	3,162,023	3,796,872	100.0	100.0
Less than \$100,000 <sup>2</sup> .....	8	25	75	315	3.2	12.6	331,922	1,504,538	1.9	9.4	65,375	319,425	2.1	8.4
\$100,000 to \$1,000,000.....	59	62	2,261	2,188	96.8	87.4	17,267,729	14,461,005	98.1	90.6	3,096,648	3,477,447	97.9	91.6
TURPENTINE AND ROSIN.....	61	64	3,275	2,573	100.0	100.0	1,997,139	1,474,629	100.0	100.0	1,416,960	1,125,520	100.0	100.0
Less than \$5,000.....	8	13	14	47	0.4	1.8	23,521	42,164	1.2	2.9	14,138	24,135	1.0	2.1
\$5,000 to \$20,000.....	28	32	371	526	11.3	20.4	318,178	372,174	15.9	25.2	217,120	284,150	15.3	25.2
\$20,000 to \$100,000.....	21	16	1,200	839	36.7	34.6	917,733	552,123	46.0	37.4	672,776	461,729	47.6	41.0
\$100,000 to \$1,000,000.....	4	3	1,690	1,111	51.6	43.2	737,707	508,168	36.9	34.5	512,926	355,506	36.2	31.6

<sup>1</sup> Includes the group "\$1,000,000 and over."

<sup>2</sup> Includes the group "\$5,000 to \$20,000."

As in the totals for all industries combined, this table shows for 1914, as compared with 1909, that for each of the four industries, except cotton goods, there was an increase in the average number of wage earners and value of products for the establishments having products valued at \$100,000 and over, and for lumber

and timber products and turpentine and rosin there was also an increase in value added by manufacture.

Table 16 presents, for 1914, for all industries combined in each of the eight cities having more than 10,000 inhabitants, statistics similar to those given in Table 14 for the state as a whole.

CITY AND VALUE OF PRODUCTS.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		CITY AND VALUE OF PRODUCTS.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.			Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
<b>COLUMBUS</b> .....	27	521	100.0	\$1,248,543	100.0	\$501,848	100.0	<b>LAUREL</b> .....	26	2,129	100.0	3,372,292	100.0	1,659,100	100.0
Less than \$5,000.....	7	15	2.9	21,200	1.7	13,993	2.8	Less than \$5,000.....	5	8	0.4	16,154	0.5	10,340	0.6
\$5,000 to \$20,000.....	12	57	10.9	105,258	8.4	61,447	12.2	\$5,000 to \$20,000.....	11	83	3.9	119,343	3.5	66,871	4.0
\$20,000 to \$100,000.....	3	65	12.5	130,200	10.4	67,373	13.4	\$20,000 to \$100,000.....	5	99	4.6	221,928	6.6	100,109	10.0
\$100,000 to \$1,000,000.....	5	384	73.7	991,885	79.4	359,035	71.5	\$100,000 to \$1,000,000.....	5	1,939	91.1	3,014,807	89.4	1,415,840	85.3
<b>GREENVILLE</b> .....	25	671	100.0	1,935,153	100.0	757,757	100.0	<b>MERIDIAN</b> .....	51	1,974	100.0	4,738,703	100.0	2,019,034	100.0
Less than \$20,000 <sup>1</sup> .....	12	59	8.8	96,025	5.0	66,770	8.8	Less than \$5,000.....	3	3	0.2	8,300	0.2	4,485	0.2
\$20,000 to \$100,000.....	8	104	15.5	339,457	17.5	183,798	24.3	\$5,000 to \$20,000.....	18	136	6.9	214,049	4.5	122,474	6.1
\$100,000 to \$1,000,000.....	5	508	75.7	1,499,671	77.5	507,189	66.9	\$20,000 to \$100,000.....	20	409	23.8	924,880	19.5	480,776	24.1
<b>HATTIESBURG</b> .....	35	587	100.0	1,133,927	100.0	467,610	100.0	\$100,000 to \$1,000,000.....	10	1,366	69.2	3,591,534	75.8	1,405,299	69.6
Less than \$5,000.....	13	22	3.7	36,866	3.2	22,928	4.9	<b>NATCHEZ</b> .....	24	297	100.0	895,913	100.0	290,180	100.0
\$5,000 to \$20,000.....	8	64	10.9	106,374	9.4	56,644	12.1	Less than \$5,000.....	5	12	4.0	9,573	1.1	6,498	2.2
\$20,000 and over <sup>2</sup> .....	14	501	85.3	990,687	87.4	388,038	83.0	\$5,000 to \$20,000.....	8	52	17.5	102,679	11.5	54,988	18.9
<b>JACKSON</b> .....	49	943	100.0	3,625,068	100.0	1,111,068	100.0	\$20,000 and over <sup>2</sup> .....	11	233	78.5	783,661	87.5	228,694	78.3
Less than \$5,000.....	9	7	0.7	14,189	0.4	12,387	1.1	<b>VICKSBURG</b> .....	37	1,009	100.0	1,672,907	100.0	840,680	100.0
\$5,000 to \$20,000.....	17	138	14.6	234,666	6.5	138,640	12.5	Less than \$5,000.....	12	41	4.1	29,211	1.7	20,976	2.5
\$20,000 to \$100,000.....	16	333	35.3	736,835	20.3	399,621	36.0	\$5,000 to \$20,000.....	10	65	6.4	120,162	7.2	76,696	9.1
\$100,000 to \$1,000,000.....	7	465	49.3	2,639,378	72.8	560,420	50.4	\$20,000 and over <sup>2</sup> .....	15	903	89.5	1,523,534	91.1	743,008	88.4

<sup>1</sup>Includes the group "less than \$5,000."

<sup>2</sup>Includes the group "\$100,000 to \$1,000,000."

In Columbus, Greenville, Jackson, Laurel, and Meridian the same general condition is found as prevails for all industries combined in the state, namely, a preponderance as to value of products for establishments in the group of \$100,000 and over. Each of the cities shows a considerable proportion of the total number of establishments as having products valued at less than \$20,000, but

their combined value of products was relatively small.

Table 17 shows the size of establishments in 1914 as measured by the number of wage earners employed. The figures given are for all industries combined, for eight of the more important industries, and for each of the eight cities, having more than 10,000 inhabitants.

INDUSTRY AND CITY.	TOTAL.		ESTABLISHMENTS EMPLOYING—							
			No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.				
	Estab-lish-ments.	Wage earners (average number).	Estab-lish-ments.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	
<b>All industries</b> .....	2,209	46,702	82	1,234	3,082	526	5,760	195	6,312	
Bread and other bakery products.....	83	306	15	50	126	18	180	.....	.....	.....
Canning and preserving.....	18	1,052	.....	1	5	5	70	.....	.....	142
Cars and general shop construction and repairs by steam-railroad companies.....	15	3,273	.....	.....	.....	4	32	5	.....	98
Cotton goods.....	11	1,989	.....	.....	.....	.....	.....	1	.....	49
Ice, manufactured.....	58	476	.....	34	113	18	214	6	.....	149
Lumber and timber products.....	1,296	29,640	5	732	1,873	357	3,816	92	2,892	.....
Oil, cottonseed, and cake.....	67	2,336	.....	2	10	15	223	40	1,400	.....
Turpentine and rosin.....	61	3,275	2	21	69	9	138	16	647	.....
All other industries.....	600	4,350	60	394	896	100	1,096	32	928	.....
<b>Total for cities</b> .....	274	8,131	13	104	296	91	1,062	37	1,149	.....
<b>COLUMBUS</b> .....	27	521	1	15	45	5	63	3	100	.....
<b>GREENVILLE</b> .....	25	671	1	9	27	8	82	5	191	.....
<b>HATTIESBURG</b> .....	35	587	1	17	42	11	122	3	101	.....
<b>JACKSON</b> .....	49	943	6	14	39	16	198	8	231	.....
<b>LAUREL</b> .....	26	2,129	.....	11	27	7	61	3	102	.....
<b>MERIDIAN</b> .....	51	1,974	.....	14	39	20	248	9	249	.....
<b>NATCHEZ</b> .....	24	297	.....	11	36	10	120	2	67	.....
<b>VICKSBURG</b> .....	37	1,009	4	13	41	14	168	4	108	.....

Table 17—Continued.

INDUSTRY AND CITY.	ESTABLISHMENTS EMPLOYING—									
	51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.
All industries.....	81	5,661	58	9,776	21	7,716	11	6,835	1	1,551
Bread and other bakery products.....	3	232	4	603						
Canning and preserving.....	1	95	3	505						
Cars and general shop construction and repairs by steam-railroad companies.....	2	127	6	1,021	2	792	4	2,545		
Cotton goods.....										
Ice, manufactured.....	49	3,456	37	6,327	17	6,174	6	3,551	1	1,551
Lumber and timber products.....	10	604								
Oil, cottonseed, and cake.....	7	454	3	488	2	750	1	739		
Turpentine and rosin.....	9	603	5	829						
All other industries.....										
Total for cities.....	14	1,000	8	1,245	3	998	4	2,381		
COLUMBUS.....	1	55	2	258						
GREENVILLE.....	1	62			1	309				
HATTIESBURG.....	2	149	1	173						
JACKSON.....	4	300	1	175						
LAUREL.....	1	65			2	680	2	1,185		
MERIDIAN.....	3	208	4	639			1	591		
NATCHEZ.....	1	74								
VICKSBURG.....	1	87					1	605		

Table 18 presents, for 1914, percentages based on the figures in Table 17, and for 1909, similar percentages for all industries combined and for individual industries in the state as a whole.

INDUSTRY AND CITY.	Cen-sus year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
All industries.....	1914	6.6	12.4	13.5	12.1	20.9	16.5	14.6	3.3
	1909	7.1	17.6	18.1	11.3	16.8	16.0	10.9	2.2
Bread and other bakery products.....	1914	41.2	58.8						
	1909	49.1	50.9						
Canning and preserving.....	1914	0.5	6.7	13.5	22.0	57.3			
	1909	0.5	2.4	6.7	23.2	28.7	33.5		
Cars and general shop construction and repairs by steam-railroad companies.....	1914		1.0	3.0	2.9	15.5		77.6	
	1909		0.3	1.1	6.8	15.4	33.6	42.8	
Cotton goods.....	1914			2.5	6.4	51.3	39.8		
	1909		0.3		8.2	46.4	45.0		
Ice, manufactured.....	1914	23.7	45.0	31.3					
	1909	34.0	57.2	8.8					
Lumber and timber products.....	1914	6.3	12.9	9.8	11.7	21.3	20.8	12.0	5.2
	1909	7.0	18.2	16.9	11.4	16.6	15.4	11.1	3.3
Oil, cottonseed, and cake.....	1914	0.4	9.5	60.3	29.7				
	1909	1.0	16.5	64.2	18.3				
Turpentine and rosin.....	1914	1.8	4.2	19.8	13.9	14.9	22.9	22.6	
	1909	0.5	14.6	23.0	6.4	20.3	9.8	25.5	
All other industries.....	1914	20.6	25.2	21.3	13.9	19.0			
	1909	18.5	31.0	22.5	12.3	10.0	5.7		
Total for cities.....	1914	3.6	13.1	14.1	12.3	15.3	12.3	29.3	
COLUMBUS.....	1914	8.6	12.1	19.2	10.6	49.5			
GREENVILLE.....	1914	4.0	12.2	28.5	9.2		46.1		
HATTIESBURG.....	1914	7.2	20.8	17.2	25.4	29.5			
JACKSON.....	1914	4.1	21.0	24.5	31.8	18.6			
LAUREL.....	1914	1.3	2.9	4.8	3.0		32.4	55.6	
MERIDIAN.....	1914	2.0	12.6	12.6	10.5	32.4		29.9	
NATCHEZ.....	1914	12.1	40.4	22.6	24.9				
VICKSBURG.....	1914	4.1	16.6	10.7	8.6			60.0	

There were 82 establishments for which no wage earners are shown. In these establishments all the work is done by the proprietors or members of their families, firm members, or persons classed as salaried

employees. For some of them the number of wage earners employed was so small and the term of employment so short that in computing the average, as described in the "Explanation of terms," the number was less than one person and the establishment was classed as one having no wage earners. The small establishments—those employing from 1 to 20 wage earners—formed 79.7 per cent of the total for the state, but gave employment to only 19 per cent of the total wage earners reported. The groups of establishments having more than 100 wage earners, although representing only 4.1 per cent of the total number of establishments in the state, gave employment to 55.4 per cent of the total wage earners.

Among the cities, the highest percentage of the total number of wage earners reported by establishments employing more than 500 wage earners each is shown for Vicksburg, 60.

Engines and power.—Table 19 shows, for 1914, 1909, and 1904, for all industries combined, the number and horsepower of engines or motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

The slight decrease in primary power amounting to 9.6 per cent from 1909 to 1914, shown in the following table, is due to the decrease in steam power. The use of rented electric power has steadily increased since 1904, when 508 horsepower of this character, representing five-tenths of 1 per cent of the total primary power, was reported. In 1909 the amount of such power had increased to 2,496 horsepower, or 1.2 per cent of the total, and in 1914 to 6,779, or 3.7 per cent. The increase in the use of electric motors run by current generated within the same establishments has almost kept pace with that in rented power.

Table 19

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total.....	3,249	3,251	1,534	186,434	206,222	110,338	100.0	100.0	100.0
Owned.....	2,527	2,924	1,534	179,625	203,661	109,805	96.3	98.8	99.5
Steam engines and turbines <sup>1</sup> .....	2,273	2,747	1,475	177,287	202,346	109,508	95.1	98.1	99.2
Internal-combustion engines.....	237	166	53	1,695	1,077	220	0.9	0.5	0.2
Water wheels, turbines, and motors.....	17	11	6	643	238	77	0.3	0.1	0.1
Rented.....	722	327	(?)	6,809	2,561	533	3.7	1.2	0.5
Electric.....	722	327	(?)	6,779	2,496	508	3.6	1.2	0.5
Other.....				30	65	25	(?)	(?)	(?)
Electric.....	1,016	517	50	17,351	7,627	1,307	100.0	100.0	100.0
Rented.....	722	327	(?)	6,779	2,496	508	39.1	32.7	37.2
Generated by establishments reporting.....	294	190	50	10,572	5,131	859	60.9	67.3	62.8

<sup>1</sup> Figures for horsepower include for 1909 and 1904 the amount reported under the head of "Other" owned power.

<sup>2</sup> Not reported.

<sup>3</sup> Less than one-tenth of 1 per cent.

**Fuel.**—Closely related to the subject of power employed in manufactures is that of the fuel consumed in generating this power or otherwise used in the manufacturing processes.

Table 20 shows, for 1914, the quantity of each kind of fuel used, for which data were obtained, for all industries combined and for selected industries in the state as a whole, and for all industries combined in each city.

Table 20

INDUSTRY AND CITY.	COAL.			Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).		
All industries.....	1,853	476,108	6,242	12,117	3,536
Bread and other bakery products.....	10	545	284	56	194
Canning and preserving.....		6,568	2	4	416
Carriages and wagons and materials.....		816	140	65	
Cars and general shop construction and repairs by steam-railroad companies.....	322	34,951	648	2,215	
Cotton goods.....		28,680		86	
Flour-mill and gristmill products.....		200		366	
Gas, illuminating and heating.....		16,218	1,896	7,222	
Ice, manufactured.....	1,177	63,059	796	177	
Lumber and timber products.....		57,513		685	
Marble and stone work.....		23		38	
Oil, cottonseed, and cake.....		163,184	1,000		
Turpentine and rosin.....				43	
All other industries.....	344	104,351	1,476	1,160	2,926

INDUSTRY AND CITY.	COAL.			Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).		
Total for cities.....	1,045	141,145	2,720	4,661	2,787
COLUMBUS.....		9,996	52	15	9
GREENVILLE.....		19,166	99	27	
HATTIESBURG.....	4	4,934	200	4	
JACKSON.....	260	21,493	207	17	91
LAUREL.....		6,109	290	30	
MERIDIAN.....	461	53,251	681	109	1,007
NATCHEZ.....	2	7,073	53	250	218
VICKSBURG.....	315	10,123	1,147	4,209	832

## SPECIAL STATISTICS.

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantities and cost of materials, the quantities and value of products, and other information for which no provision is made on the general schedule. Certain data of this character for five important industries in Mississippi are here presented, and also statistics for power laundries.

**Oil, cottonseed, and cake.**—Mississippi ranked fourth among the states in cottonseed products manufactured. While there has been an increase from census to census in the total value of products, there has been an actual decrease in the quantity of seed handled, the amount in 1914 being less than in 1909 and in 1904. This condition is due to the ravages of the boll weevil, which not only reduced the yield of cotton per acre but tended to reduce the acreage as well. The following table gives the quantity of cotton seed crushed and the quantities of the several crude products obtained for the census years 1914, 1909, and 1904:

Table 21

MATERIAL AND PRODUCT.	QUANTITY.		
	1914	1909	1904
Cotton seed, crushed.....tons (2,000 lbs.)..	506,190	550,357	556,393
Crude products manufactured:			
Oil.....gallons..	21,312,278	24,386,280	22,975,901
Meal and cake.....tons (2,000 lbs.)..	232,126	244,738	228,122
Hulls.....tons (2,000 lbs.)..	138,669	181,797	198,461
Linters.....pounds..	35,652,381	24,237,536	17,418,633

The statistics in this table for 1914 relate to the crushing season of 1913-14, that is, to the handling of seed from the crop of 1913. They cover the operations of all establishments which crushed cotton seed during the season, regardless of the extent to which they were engaged in other branches of industry. Furthermore, the crude products reported represent the total production derived from crushing cotton seed, whether sold as such or used as intermediate products in further processes of manufacture, such as the refining of oil and the mixing of fertilizer and feed.

The total quantity of cotton seed crushed increased from 394,678 tons in 1899 to 559,357 tons in 1909, and then decreased to 506,190 tons in 1914. Of the 69 mills reported in 1914 as crushing cotton seed, 2 crushed less than 1,000 tons each during the census year; 6 crushed 1,000 but less than 2,000 tons; 22 crushed 2,000 but less than 5,000 tons; 23 crushed 5,000 but less than 10,000 tons; 13 crushed 10,000 but less than 20,000 tons; and 3 crushed 20,000 tons and over.

The quantities of the various products obtained in 1914 per ton of seed, as received at the mill, were as follows: Crude oil, 42.1 gallons; cake and meal, 917 pounds; hulls, 548 pounds; and linters, 70 pounds. The ratios which the several products bore to the total weight of the seed when received at the mill were: Crude oil, 15.8 per cent; cake and meal, 45.9 per cent; hulls, 27.4 per cent; and linters, 3.5 per cent.

**Cotton goods.**—In the following table statistics are presented pertaining to materials used, products, and machinery for 1914, 1909, and 1904.

Table 22	1914	1909	1904
<b>MATERIALS.</b>			
Total cost.....	\$1,812,000	\$2,042,150	\$1,648,842
Cotton, domestic:			
Pounds.....	13,897,361	16,371,192	13,007,625
Cost.....	\$1,545,598	\$1,797,222	\$1,404,062
Starch, cost.....	13,385	12,769	12,72
Chemicals and dyestuffs, cost.....	34,652	31,042	39,893
Fuel and rent of power and heat, cost.....	78,261	101,537	93,388
All other materials, cost.....	140,104	99,860	99,157
<b>PRODUCTS.</b>			
Total value.....	\$2,789,007	\$3,102,398	\$2,462,808
Drills:			
Square yards.....	6,676,949	7,705,349	8,883,605
Value.....	\$448,493	\$437,721	\$472,705
Unbleached and bleached sheetings, shirtings, and muslins: <sup>1</sup>			
Square yards.....	16,137,838	26,146,744	28,041,120
Value.....	\$771,676	\$1,407,366	
Other woven goods:			
Square yards.....	20,086,423	11,744,171	( <sup>2</sup> )
Value.....	\$1,219,702	\$933,126	
Yarns, for sale:			
Pounds.....	1,333,799	1,119,504	1,401,411
Value.....	\$288,050	\$220,920	\$273,667
Cotton waste, for sale:			
Pounds.....	1,237,201	1,018,718	868,038
Value.....	\$30,181	\$28,556	\$37,581
All other products, value.....	\$30,905	\$74,709	\$1,678,855
<b>MACHINERY.</b>			
Spindles (producing, not including doubling and twisting spindles), number.....	120,186	153,804	125,352
Looms, number.....	3,537	4,733	3,472

<sup>1</sup> The figures for these fabrics represent the combined quantities and values of those designated at prior censuses as "plain cloths for printing and converting" and "brown or bleached sheetings and shirtings."

<sup>2</sup> Value included in "all other products."

The principal material used is domestic cotton, of which 13,897,361 pounds were consumed in 1914, at a cost of \$1,545,598. The products were valued at \$2,789,007, of which 87.5 per cent represented woven goods. Yarns constituted 10.3 per cent of the total value of products.

The decline in this industry in 1914 as compared with 1909 was due largely to the ravages of the boll weevil.

**Fertilizers.**—The following table gives the statistics pertaining to products for 1914, 1909, and 1904:

Table 23	1914	1909	1904
Total value.....	\$2,059,786	\$2,125,029	\$1,082,387
Fertilizers:			
Tons.....	<sup>1</sup> 129,460	<sup>1</sup> 133,101	60,372
Value.....	\$1,861,845	\$1,725,256	\$933,877
Complete and ammoniated fertilizers—			
Tons.....	65,766	72,193	50,153
Value.....	\$1,349,190	\$1,167,632	\$811,394
Superphosphates, concentrated phosphates, and all others—			
Tons.....	63,703	60,908	10,219
Value.....	\$512,655	\$557,624	\$122,483
All other products, value.....	\$197,941	\$399,773	\$148,510

<sup>1</sup> In addition, there was produced in cottonseed-oil mills and other industries 29,794 tons of fertilizers, valued at \$521,174, in 1914, and 33,971 tons, valued at \$610,052, in 1909.

Including fertilizers made by establishments engaged primarily in the manufacture of cottonseed products and in other industries, the total production was 159,263 tons, valued at \$2,383,019, in 1914, and 167,072 tons, valued at \$2,341,308, in 1909, showing a slight decrease in quantity with a slight increase in value.

**Turpentine and rosin.**—The fluctuation in this industry is brought out in the following table, which gives the quantities and values of the different products for 1914, 1909, and 1904:

Table 24	1914	1909	1904
Total value.....	\$1,997,139	\$1,474,629	\$2,365,720
Spirits of turpentine:			
Gallons.....	2,385,054	1,588,786	3,160,371
Value.....	\$905,747	\$732,334	\$1,473,530
Rosin:			
Barrels (280 pounds).....	275,205	192,508	362,835
Value.....	\$1,081,040	\$739,799	\$892,028
All other products, value.....	\$10,352	\$2,496	\$162

The working unit in turpentine operations is called a crop, which consists of 10,500 boxes or cups. In 1914 there were 1,138 crops produced in the state, of which 279 were from virgin trees, 402 from the second year, 344 from the third year, and 113 from older trees. Of the total number of crops worked, 1,121 were gathered through the cup system, comprising 275 crops from virgin trees, 398 from second year, 337 from third year, and 111 from older trees.

**Printing and publishing.**—Table 25 shows the publications in Mississippi, by number and aggregate circulation per issue, classified according to period of issue, for the years 1914, 1909, and 1904.

Table 25	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1914	1909	1904	1914	1909	1904
PERIOD OF ISSUE.						
Total.....	218	219	207	267,319	315,731	222,028
Daily.....	17	18	14	45,792	47,492	22,250
Sunday.....	7	7	4	32,571	36,322	12,800
Semiweekly.....	17	5	4	16,236	6,000	4,050
Weekly.....	169	182	176	161,565	221,492	167,993
Monthly.....	13	5	6	18,255	7,725	7,725
All other classes.....	5	2	3	2,600	4,425	7,306

<sup>1</sup> Includes one triweekly.

Of the 17 daily newspapers in 1914, 12 were evening editions, with a circulation of 29,938.

For the ten-year period there was a gain of 11 in number of publications and of 45,291, or 20.4 per cent, in circulation. The daily and Sunday publications show greater increases in circulation than any of the other classes.

The returns of daily newspapers for 1914 show a net decrease of one from the number reported for 1909. The circulation of a few, reporting also in 1909, was returned at a lower figure than at the previous census, due, perhaps, to the fact that the inquiry at the census of 1914 was for the average circulation per issue during the month of December, while for the previous census it was the average for the year. The circulation of the weeklies decreased considerably. This was due in part to a similar condition—the return for 1914 was for December and not the average for the entire year. Also, some of the weeklies of 1909 were issued in 1914 at less frequent periods, thus taking them out of the class and lowering both number and circulation; one of these had a large circulation in 1909. Another weekly, also of large circulation, was not published in 1914.

Mississippi is one of the seven states in which the entire number of publications were printed in the English language.

**Laundries.**—Statistics for power laundries are not included in the general tables nor in the totals for all manufacturing industries. Table 26, however, summarizes these statistics for Mississippi for 1914 and 1909.

**Table 26**

	POWER LAUNDRIES.		
	Number or amount.		Per cent of increase, <sup>1</sup> 1909-1914.
	1914	1909	
Number of establishments.....	27	30	—10.0
Persons engaged.....	688	603	14.1
Proprietors and firm members.....	32	32	—
Salaried employees.....	40	42	—4.8
Wage earners (average number).....	607	529	14.7
Primary horsepower.....	680	821	—17.2
Capital.....	\$347,909	\$332,302	4.7
Salaries and wages.....	267,848	201,908	32.7
Salaries.....	53,270	38,925	36.9
Wages.....	214,578	162,983	31.7
Paid for contract work.....	75	—	—
Rent and taxes.....	12,435	8,485	46.0
Cost of materials.....	122,244	80,973	51.0
Amount received for work done.....	540,209	440,579	22.6

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted when base is less than 100.

In 1914 Mississippi ranked forty-first among the states both in number of establishments and in amount received for work done and thirty-ninth in number of persons engaged in the industry. Although there was a loss in the number of establishments and a decrease in horsepower, the table shows increases in all other items given. The increases in amount

received for work done and in average number of wage earners amounted to 22.6 per cent and 14.7 per cent, respectively. Establishments owned by individuals reported 48.4 per cent of the amount received for work done; those owned by corporations, 37.4 per cent; and those under other forms of ownership, 14.2 per cent.

Table 27 shows, for 1914 and 1909, the number of wage earners employed in the laundries on the 15th day of each month, or the nearest representative day, and the percentage which this number represents of the greatest number reported in any month of the same year.

**Table 27**

MONTH.	WAGE EARNERS.			
	Number.		Per cent of maximum.	
	1914	1909	1914	1909
January.....	580	495	88.3	88.2
February.....	576	498	87.7	88.8
March.....	582	507	88.6	91.1
April.....	598	530	91.0	91.5
May.....	600	542	91.3	95.6
June.....	625	549	95.1	97.9
July.....	655	561	99.7	100.0
August.....	657	554	100.0	98.8
September.....	618	548	98.6	97.7
October.....	598	524	91.0	93.4
November.....	597	521	90.9	92.9
December.....	562	513	85.5	91.4

Table 28 gives statistics as to kinds and amounts of power used in the laundries of the state in 1914 and 1909.

**Table 28**

POWER.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.	
	1914	1909	1914	1909
Primary power, total.....	42	34	680	821
Owned.....	25	29	595	765
Steam.....	24	20	583	765
Water wheels and motors.....	1	—	12	—
Rented.....	17	5	85	56
Electric.....	17	5	85	30
Other.....	—	—	—	26
Electric-generated in establishments reporting.....	0	—	23	—

Table 29 shows the kinds and quantities of fuel used in the laundries, as reported at the censuses of 1914 and 1909, with percentages of increase.

**Table 29**

KIND.	UNIT.	QUANTITY.		Per cent of increase, <sup>1</sup> 1909-1914.
		1914	1909	
Bituminous coal.....	Tons (2,000 lbs.).....	6,947	7,048	—1.4
Oil.....	Barrels.....	2,041	106	1,825.5
Gas.....	1,000 cubic feet.....	1,027	366	180.6

<sup>1</sup> A minus sign (—) denotes decrease.



## GENERAL TABLES.

Table 30 gives, for 1914, 1909, and 1904, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for selected industries in the state and for the cities having from 10,000 to 50,000 inhabitants, similar data for all industries combined.

Table 31 presents, for 1914, in the state as a whole, statistics in detail for each industry that can be shown without the disclosure of the operations of individual establishments, and the statistics for all industries combined for each of the cities in the state having from 10,000 to 50,000 inhabitants.

TABLE 30.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horsepower.	Wages.	Cost of materials.	Value of products.	INDUSTRY AND CITY.	Census year.	Number of establishments.	Wage earners (average number).	Primary horsepower.	Wages.	Cost of materials.	Value of products.
					Expressed in thousands.								Expressed in thousands.		
					THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.										
All industries.....	1914	2,209	46,702	186,434	\$19,177	\$41,340	\$79,550	Gas, illuminating and heating.	1914	8	113	196	56	111	292
	1909	2,598	50,384	206,222	18,768	36,926	80,555		1909	8	101	148	39	86	256
	1904	1,520	38,690	110,338	14,819	25,801	57,451		1904	5	55	111	24	39	125
Bread and other bakery products.	1914	83	306	184	145	514	919	Ice, manufactured.....	1914	58	476	8,439	219	327	1,046
	1909	79	285	92	128	516	878		1909	51	341	7,003	189	213	866
	1904	57	160	141	60	261	499		1904	37	274	4,171	110	145	603
Canning and preserving..	1914	118	1,052	600	229	877	1,655	Lumber and timber products.	1914	1,296	29,640	125,371	12,413	14,856	38,538
	1909	11	847	378	97	508	824		1909	1,647	33,397	149,715	12,583	14,207	42,793
	1904	211	757	550	172	1,032	1,506		1904	1,604	22,431	68,905	9,242	7,005	26,162
Carriages and wagons and materials.	1914	23	210	1,074	101	223	479	Marble and stone work..	1914	13	58	108	31	77	149
	1909	41	365	1,350	154	274	642		1909	11	71	80	41	79	176
	1904	24	318	1,003	132	213	494		1904	9	47	34	27	50	126
Cars and general shop construction and repairs by steam-railroad companies.	1914	15	3,278	3,350	2,028	1,493	3,682	Mineral and soda waters.	1914	80	308	543	119	566	1,066
	1909	10	2,572	2,232	1,558	1,422	3,233		1909	79	191	317	72	234	561
	1904	15	2,653	1,019	1,421	1,332	2,886		1904	34	117	224	44	99	295
Copper, tin, and sheet-iron work.	1914	18	82	.....	51	90	191	Oil, cottonseed, and cake.	1914	67	2,336	25,272	850	14,438	17,600
	1909	15	119	.....	69	91	211		1909	87	2,503	24,534	833	12,169	15,966
	1904	3	5	.....	2	2	8		1904	91	2,499	20,156	732	10,070	12,587
Cotton goods.....	1914	11	1,989	5,510	580	1,812	2,789	Printing and publishing.	1914	219	663	643	371	314	1,267
	1909	14	2,645	8,045	695	2,042	3,102		1909	225	736	496	387	300	1,308
	1904	14	2,161	5,867	518	1,649	2,463		1904	211	549	265	254	195	916
Fertilizers.....	1914	11	379	2,809	155	1,605	2,060	Turpentine and rosin....	1914	61	3,275	108	669	580	1,997
	1909	10	449	1,823	141	1,385	2,125		1909	64	2,573	286	582	349	1,475
	1904	5	348	645	79	857	1,082		1904	124	2,633	300	737	394	2,366
Flour-mill and gristmill products.	1914	17	48	783	14	344	410	Wood preserving.....	1914	4	241	1,497	153	1,061	1,479
	1909	13	18	609	5	132	153		1909	3	263	1,275	112	652	1,315
	1904	9	20	422	7	95	110	All other industries.....	1914	164	1,825	8,852	762	1,790	3,232
Foundry and machine-shop products.	1914	43	423	1,095	231	262	699		1909	180	2,325	6,467	788	1,795	3,583
	1909	50	583	1,372	295	472	1,088		1904	172	3,147	5,743	980	2,007	4,303
	1904	35	516	782	260	356	920								

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

HATTIESBURG.....	1914	35	587	2,964	\$292	\$666	\$1,134	NATCHEZ.....	1914	24	297	1,158	131	606	896
	1909	29	648	2,273	297	625	1,251		1909	27	428	1,481	169	689	1,114
	1904	24	516	1,812	213	516	920		1904	24	316	.....	134	503	820
JACKSON.....	1914	49	948	4,862	460	2,514	3,625	VICKSBURG.....	1914	37	1,009	1,757	534	832	1,673
	1909	44	772	3,292	366	1,852	2,960		1909	47	1,202	2,037	637	1,148	2,229
	1904	35	516	1,812	213	516	920		1904	32	1,031	.....	524	993	1,888
MERIDIAN.....	1914	51	1,974	5,538	1,017	2,720	4,739								
	1909	54	1,524	5,361	702	2,474	4,237								
	1904	53	1,346	.....	588	2,052	3,268								

<sup>1</sup> Includes "canning and preserving, fish;" "canning, fruits and vegetables;" "canning and preserving, oysters;" and "pickles and sauces."

<sup>2</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>3</sup> Includes "boxes, wooden packing;" and "lumber, planing-mill products, not including planing mills connected with sawmills."

<sup>4</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>5</sup> Figures do not agree with those published, because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

## MANUFACTURES—MISSISSIPPI.

TABLE 31.—DETAIL STATEMENT FOR THE STATE, BY INDUSTRIES

INDUSTRY AND CITY.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

## THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

1	All industries.....	2,209	52,277	2,386	1,420	1,576	193	46,702	Ja 48,363	De 43,937	(3)	(3)	(3)	(3)	(3)	\$81,005,484
2	Agricultural implements.....	5	44	3	6	2	1	32	Fe 57	No 7	40	40				138,987
3	Artificial stone products.....	4	16	4	2			10	My 20	De 5	26	20				28,200
4	Boxes, wooden, packing.....	8	234	9	8	4		213	Ap 293	Au 93	267	228	20	10		217,390
5	Bread and other bakery products.....	83	426	98	10	4	8	306	Oc 325	Au 300	317	206	8	13		332,945
6	Brick and tile, terra-cotta, and fire-clay products.....	38	628	42	27	6	2	551			757	714	8	35		703,747
7	Building brick.....	34	564	41	22	5	2	494	Je 683	De 239	677	637	8	32		614,561
8	Sewer pipe and drain tile.....	4	61	1	5	1		57	Jy 90	Fe 10	80	77		3		89,186
9	Brooms, from broom corn.....	6	24	16				8	My 12	Ja 5	13	11	2			8,025
10	Canning and preserving, fish.....	10	819	2	14	10	2	791	Oc 1,283	My 60	1,281	463	761	26	31	489,403
11	Canning, fruits and vegetables.....	5	88	2	3	1		82	No 290	Fe 0	297	155	130	7	5	71,639
12	Carriage and wagon materials.....	8	108	4	8			96	Mh 134	Au 48	117	117				127,777
13	Carriages, wagons, and repairs.....	15	150	17	6	12	1	114	Ja 132	No 95	96	96				392,584
14	Cars and general shop construction and repairs by electric-railroad companies.....	9	52		6	2	1	43	Au 44	Jy 42	43	43				200,814
15	Cars and general shop construction and repairs by steam-railroad companies.....	15	3,515		74	150	13	3,278	Ja 3,508	De 2,845	2,836	2,819	17			2,016,004
16	Coffee, roasting and grinding.....	5	18	6	1	3		8	My 10	Ap 7	8	8				27,284
17	Confectionery and ice cream.....	13	93	22	5	10		56			60	45	12	3		120,216
18	Confectionery.....	5	57	7	2	10		38	Se 41	Mh 36	38	23	12	3		92,934
19	Ice cream.....	8	36	15	3			18	Ja 29	Ja 8	22	22				27,282
20	Copper, tin, and sheet-iron work.....	18	107	22	1	2		82	My 91	De 74	79	78				87,620
21	Cotton goods.....	11	2,059		42	23	5	1,989	Fe 2,053	Au 1,902	2,042	1,020	822	124	70	3,837,231
22	Fertilizers.....	11	414	2	26	34	3	379	Mh 646	Au 192	445	445				2,022,502
23	Flour-mill and gristmill products.....	17	82	20	7	6	1	48	Ja 52	Au 43	53	51		2		140,232
24	Food preparations, not elsewhere specified.....	5	32	1	7	3	2	19	Ja 27	Oc 13	19	10	1	2		100,554
25	Foundry and machine-shop products.....	43	532	38	33	29	9	423	Ap 457	De 356	374	371	2	1		1,368,425
26	Furniture, wood, other than rattan and willow.....	5	11	6				5	De 6	Oc 3	6	5		1		27,137
27	Gas, illuminating and heating.....	8	162		17	25	7	113	Je 134	Ja 102	102	102				1,372,000
28	Ice, manufactured.....	58	623	35	64	41	7	476	Je 732	Ja 255	550	529		21		1,855,803
29	Lumber and timber products.....	1,240	81,352	1,641	537	716	68	28,490	Au 30,248	De 25,207	34,922	34,767	16	139		43,783,927
30	Lumber, planing-mill products, not including planing mills connected with sawmills.....	48	1,099	54	47	52	9	937	Ja 999	De 833	916	911		5		2,048,850
31	Marble and stone work.....	13	81	12	4	4	3	58	Ja 64	Mh 53	61	59	2			104,500
32	Mattresses and spring beds.....	7	43	9			1	33	Ja 38	De 24	30	24		1		54,704
33	Mineral and soda waters.....	80	459	84	33	31	3	308	Jy 374	Fe 253	306	288	7	11		625,101
34	Oil, cottonseed, and cake.....	67	2,775	16	220	194	9	2,336	Je 3,964	Ja 754	3,968	3,947	10	11		9,372,002
35	Patent medicines and compounds.....	6	13	5	2		1	5	Fe 7	Jy 4	6	5				25,005
36	Printing and publishing, job printing.....	23	143	22	7	11	3	100	De 106	Au 97	107	90	16	1		271,500
37	Printing and publishing, newspapers and periodicals.....	196	857	181	45	46	22	563			501	437	55	98	1	908,750
38	Printing and publishing.....	14	208	10	12	22	10	154	Ap 171	Oc 144	165	130	1	34		232,008
39	Printing, publishing, and job printing.....	171	634	168	27	21	9	409	No 424	Mh 400	426	307	54	64	1	720,519
40	Publishing without printing.....	11	15	3	6	3	3									15,503
41	Saddlery and harness.....	10	48	15	5	4		24	Fe (5)	Au (5)	30	28	2			77,204
42	Shipbuilding, wooden, including boat building.....	11	77	12				65			61	61				32,966
43	New vessels.....	7	61	7				54	Ja 74	Jy 37	50	50				28,085
44	Repair work.....	4	16	5				11	Oc 21	Se 9	11	11				3,081
45	Tobacco, cigars.....	3	4	3				1	(7)	(7)	1	2				1,482
46	Turpentine and rosin.....	61	3,506	51	90	89	1	3,275	Jy 3,372	Ja 3,165	3,262	3,200	20	42		2,273,186
47	Upholstering materials, excelsior.....	3	34	4	1			28	Se 37	Ja 25	33	31		2		21,002
48	Wood preserving.....	4	289		25	19	4	241	Fe 283	Au 202	243	243				1,589,598
49	Wood, turned and carved.....	3	49	1	2			46	Mh 61	Au 34	47	47				74,010
50	All other industries*.....	34	1,181	27	35	42	7	1,070								3,092,514

## CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1	COLUMBUS.....	27	604	24	30	25	4	521	Fe 558	Je 470	549	479	52	17	1	\$983,547
2	GREENVILLE.....	25	746	18	24	29	4	671	De 838	Au 514	850	845	1	4		1,095,229
3	HATTESBURG.....	35	677	28	22	37	3	587	Ja 637	De 526	611	583	4	24		1,077,608
4	JACKSON.....	49	1,130	25	51	80	21	943	Oc 1,085	My 819	1,049	996	2	28		2,608,391
5	LAUREL.....	26	2,272	17	49	70	7	2,129	Ja 2,272	Fe 1,909	2,037	1,787	166	66	18	4,621,129
6	MERIDIAN.....	51	2,253	46	87	127	19	1,974	Fe 2,066	No 1,863	1,920	1,675	198	29	18	6,352,136
7	NATCHEZ.....	24	379	19	25	31	7	297	De 333	Je 256	317	282	17	18		582,026
8	VICKSBURG.....	37	1,168	34	51	59	15	1,009	Se 1,167	Ap 891	1,031	968	55	8		1,248,930

\* Owned power only.

\* Includes rented power, other than electric.

\* No figures shown for reasons given in "Explanation of terms."

\* Same number reported for one or more other months.

*All other industries embrace—	Butter.....	2	Coffins, burial cases, and undertakers' goods.....	2
Automobile repairing.....	Canning and preserving, oysters.....	2	Cooperage, hogsheds and barrels.....	1
Awnings, tents, and sails.....	Cars, steam-railroad, not including operations of railroad companies.....	1	Cordage and twine.....	1
Baking powders.....	Clothing, men's and youths'.....	1	Flavoring extracts.....	1
Bookbinding and blank-book making.....			Hosiery and knit goods.....	1

# MANUFACTURES—MISSISSIPPI.

19

AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal-revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$2,247,987	\$1,583,146	\$19,176,627	\$2,075,852	\$163,231	\$1,156,966	\$39,948,838	\$1,391,284	\$79,550,095	\$38,209,973	186,434	177,287	1,725	643	6,779	10,572	1
7,025	1,320	14,476	-----	96	774	20,151	924	50,638	29,563	97	75	22	-----	-----	133	2
150	-----	2,860	-----	-----	105	3,936	970	15,250	10,344	53	20	28	-----	5	-----	3
7,050	2,920	66,518	540	-----	769	74,462	1,125	201,977	126,390	641	636	5	-----	-----	-----	4
16,180	5,046	144,970	904	21,504	5,345	495,353	18,973	919,007	404,681	184	2	16	-----	166	20	5
26,126	6,000	198,099	400	36	5,932	74,993	112,550	512,777	325,234	2,435	2,435	-----	-----	-----	3	6
22,408	4,800	175,825	400	36	5,837	72,092	106,804	469,763	290,777	2,150	2,150	-----	-----	-----	3	7
3,720	1,200	22,274	-----	-----	95	2,901	5,656	43,014	34,457	285	285	-----	-----	-----	-----	8
-----	-----	3,707	-----	495	7	7,049	38	16,555	9,468	8	-----	7	-----	1	-----	9
21,070	8,880	173,553	-----	150	4,276	679,087	19,464	1,314,954	616,403	269	269	-----	-----	-----	-----	10
2,880	90	16,417	-----	6	243	47,350	1,152	73,780	25,278	236	227	4	-----	5	-----	11
9,220	41,386	800	-----	475	1,077	132,504	235	217,564	84,825	651	640	-----	11	-----	-----	12
9,700	10,339	59,787	160	1,380	4,786	86,013	4,737	261,872	171,122	423	320	30	73	73	-----	13
5,005	381	25,145	-----	-----	3,689	23,634	1,024	59,157	34,499	56	-----	-----	-----	56	-----	14
105,850	116,394	2,028,065	-----	75	12,990	1,432,829	60,072	3,682,100	2,189,199	3,350	2,316	-----	-----	1,034	464	15
1,000	1,505	3,650	-----	1,480	160	74,278	812	93,694	18,604	29	-----	4	-----	25	-----	16
7,260	8,530	23,067	-----	3,414	796	100,471	2,358	176,985	74,156	51	12	3	-----	30	-----	17
3,060	8,530	13,988	-----	1,020	526	45,777	1,499	81,176	33,900	15	12	-----	-----	3	-----	18
4,200	-----	9,079	-----	2,304	270	54,694	859	95,809	40,256	36	-----	3	-----	33	-----	19
500	1,950	50,571	249	2,798	992	90,001	454	190,945	100,490	-----	-----	-----	-----	-----	-----	20
63,131	31,874	580,491	1,000	-----	19,991	1,733,739	78,261	2,789,007	977,007	5,510	5,364	11	-----	135	627	21
41,781	61,019	155,409	2,247	1,750	27,418	1,672,527	32,458	2,059,786	454,801	2,809	1,402	50	-----	1,357	-----	22
6,952	6,000	14,488	-----	2,488	1,134	339,475	4,803	410,332	66,054	783	308	135	-----	340	-----	23
9,333	4,655	4,629	-----	1,155	979	104,685	999	201,376	35,692	100	25	-----	-----	75	-----	24
55,505	30,937	231,495	11,872	2,970	11,072	241,252	21,150	699,444	437,042	1,095	377	197	-----	521	50	25
-----	-----	1,985	-----	174	69	1,055	407	7,800	6,338	121	100	16	-----	5	8	26
18,059	19,547	55,594	-----	5,787	13,124	31,423	79,222	201,959	181,314	196	181	-----	-----	15	-----	27
75,367	33,612	219,247	-----	2,550	28,808	133,826	193,077	1,045,940	719,037	8,439	8,280	50	-----	55	84	28
1,015,013	752,847	11,948,939	1,965,304	23,103	796,674	13,604,174	189,877	36,508,812	22,712,761	120,335	118,795	456	586	498	5,022	29
67,559	55,239	397,706	2,920	5,272	18,049	980,178	6,034	1,828,954	842,742	4,395	3,940	50	-----	405	72	30
5,320	4,740	31,216	2,414	896	917	74,518	2,000	149,404	72,886	108	-----	10	-----	98	-----	31
-----	850	12,619	-----	600	500	34,717	1,104	70,093	34,272	104	-----	6	-----	98	-----	32
43,080	38,286	118,603	2,091	10,519	16,358	550,651	15,466	1,006,364	500,247	543	-----	333	3	108	15	33
338,732	190,155	849,845	199	14,053	131,229	14,055,971	381,657	17,599,651	3,162,023	25,272	24,559	143	-----	570	698	34
300	800	2,205	-----	270	165	15,352	75	25,685	10,258	-----	-----	-----	-----	-----	-----	35
12,622	12,734	71,745	-----	1,992	79,430	3,719	-----	241,876	158,727	98	-----	6	-----	-----	-----	36
55,428	56,533	299,640	18,996	25,331	10,392	212,966	17,584	1,024,854	754,274	545	-----	207	-----	328	3	37
19,918	34,567	93,779	690	4,150	2,007	55,727	5,411	296,041	234,903	143	-----	5	-----	138	-----	38
32,560	21,066	205,861	6,237	20,581	8,347	156,959	12,173	715,664	546,532	402	-----	202	-----	200	3	39
2,950	900	-----	12,069	600	38	280	-----	13,149	12,869	-----	-----	-----	-----	-----	-----	40
4,920	3,600	13,740	-----	4,075	1,365	97,530	614	146,914	48,770	121	85	2	-----	34	-----	41
-----	-----	31,278	2,200	519	272	46,072	714	101,362	54,576	170	145	12	-----	13	-----	42
-----	-----	25,677	2,200	324	244	44,039	564	93,011	48,408	137	115	12	-----	10	-----	43
-----	-----	5,601	-----	195	28	2,033	150	8,351	6,168	33	80	-----	-----	3	-----	44
-----	-----	700	-----	312	620	1,977	19	5,540	3,544	-----	-----	-----	-----	-----	-----	45
99,880	53,145	689,323	60,436	3,870	17,898	569,403	10,776	1,997,139	1,416,960	108	96	12	-----	-----	2	46
780	360	6,272	-----	-----	193	8,304	1,876	22,489	12,309	215	215	-----	-----	-----	-----	47
56,985	24,370	152,546	-----	9,000	9,074	1,029,124	31,893	1,478,528	417,511	1,497	1,475	-----	-----	-----	255	48
2,250	-----	20,532	-----	150	862	15,342	5	47,025	31,678	142	130	12	-----	-----	-----	49
55,974	37,588	434,109	1,622	9,536	5,870	1,013,036	92,606	1,944,506	838,864	5,245	4,525	132	-----	588	2,516	50

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

\$37,681	\$28,826	\$223,539	\$1,044	\$2,504	\$11,728	\$721,860	\$24,835	\$1,248,543	\$501,848	2,449	2,281	26	142	1
42,521	44,046	314,633	23,236	5,030	26,105	1,132,993	44,403	1,935,153	757,757	2,688	2,559	25	104	2
33,054	32,918	201,847	1,025	4,609	19,452	633,860	32,457	1,133,927	467,610	2,964	2,072	4	888	3
99,399	99,326	450,726	9,960	12,424	34,675	2,440,733	73,267	3,625,068	1,111,068	4,862	4,295	37	530	4
118,241	101,957	1,066,251	22,998	3,780	89,682	1,688,744	24,388	3,372,292	1,659,160	7,115	6,450	130	535	5
132,820	139,450	1,016,504	2,847	16,634	52,345	2,610,747	108,982	4,738,763	2,019,034	5,538	3,560	8	1,970	6
37,625	26,137	130,859	4,287	8,798	7,949	574,679	31,054	895,913	290,180	1,158	932	60	166	7
71,063	56,499	534,107	14,314	16,234	11,693	760,084	72,143	1,672,907	840,630	1,737	1,410	48	299	8

\* None reported for one or more other months.

\* No wage earners employed.

\* Same number reported throughout the year.

Jewelry.....	1	Saws.....	1	Sugar, cane.....	2
Models and patterns, not including paper patterns..	2	Scales and balances.....	1	Toys and games.....	1
Paper and wood pulp.....	1	Shipbuilding, iron and steel repair work.....	1	Wood distillation, not including turpentine and rosin.....	2
Pickles and sauces.....	1	Slaughtering and meat packing.....	1		
Pottery, earthen and stone ware.....	1	Stamped ware.....	1		

DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES  
1914

MISSOURI

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

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## EXPLANATION OF TERMS.

**Scope of census.**—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

**Period covered.**—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

As a rule, the same designation is used for the industry wherever it appears, although all of the products indicated by this designation were not manufactured in the state or city for which these statistics are presented. In some instances the wording is changed so as to more correctly describe the products represented. For a number of industries subclasses are shown which indicate more definitely the kind of products.

**Selected industries.**—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

**Comparisons with previous censuses.**—Owing to changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. At the census of 1909 the figures for kindred industries were combined. This practice, as a rule, has been followed in compiling the statistics of 1914 when placed in comparison with those for 1909 and prior years. The comparative summary for 1914, 1909, and 1904, therefore, does not show separately all the industries given for 1914 in the detailed statement for the state.

**Influence of increased prices.**—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

**Persons engaged in the industry.**—The following general classes of persons engaged in the manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined for any state, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation. This total, however, is shown for the different cities, because the limited area and greater regularity of employment largely overcame the objection incident to its publication for the separate states or the United States.

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added to give the average distribution for each state as a whole and for the entire country.

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work in any industry if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

**Prevailing hours of labor.**—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

**Capital.**—The instructions on the schedule for securing data relating to capital were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

**Materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Rent and taxes.**—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was therefore given.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

**Primary horsepower.**—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

**Fuel.**—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

# MISSOURI.

## GENERAL STATISTICS.

**General character of the state.**—Missouri was admitted to the Union as a state in 1821. With a gross area of 69,420 square miles, of which 68,727 represent land surface, it ranks eighteenth in size among the states. The inhabitants of Missouri in 1900 numbered 3,106,665, and in 1910, 3,293,335; and its estimated population in 1914 was 3,373,000. In total population Missouri ranked seventh among the states in 1910; and in density of population it ranked eighteenth, with 47.9 inhabitants per square mile, the corresponding figure for 1900 being 45.2.

The urban population in 1910—that is, the population residing in incorporated places of 2,500 or more—was 1,398,817, or 42.5 per cent of the total, as against 36.3 per cent in 1900. There were in the state in 1914, 14 cities, each with an estimated population of more than 10,000: Cape Girardeau, Columbia, Hannibal, Independence, Jefferson City, Joplin, Kansas City, Moberly, St. Charles, St. Joseph, St. Louis, Sedalia, Springfield, and Webb City. The aggregate population of these cities formed 38.3 per cent of the estimated population of the state.

With the exception of portions of the south central part, the transportation facilities of Missouri are excellent, St. Louis and Kansas City being among the greatest railway centers of the country. The steam-railway mileage in 1914 was 8,224, and the electric-railway

mileage in 1912 was 921. The Mississippi and Missouri Rivers provide exceptionally good facilities for water transportation.

According to the annual report of the United States Geological Survey, the total output of the mines and quarries of Missouri in 1914 was valued at \$48,597,593, the leading products being lead, zinc, and coal. The state ranked eleventh in that year in total value of mineral output and first in production of lead and zinc.

The value of merchandise imported through the St. Louis customs district in 1914 was \$9,583,659.

**Importance and growth of manufactures.**—Missouri's manufactured products in 1914 were valued at \$637,952,128, and the average number of wage earners employed in its manufacturing industries was 152,182. In that year it ranked eleventh among the states both in value of products and average number of wage earners, producing 2.6 per cent of the manufactured products and reporting 2.2 per cent of the total wage earners shown for the United States. The corresponding percentages for 1909 were 2.8 and 2.3 and for 1904 were 3 and 2.4 per cent, respectively.

Table 1 summarizes the more important data relative to all classes of manufactures combined in the state of Missouri for the censuses of 1914, 1909, 1904, and 1899, and gives percentages of increase from census to census.

**Table 1**

	MANUFACTURING INDUSTRIES.				PER CENT OF INCREASE. <sup>1</sup>		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	8,386	8,275	6,464	6,853	0.1	29.6	-5.7
Persons engaged.....	188,266	185,705	156,585	(2)	1.4	18.6	.....
Proprietors and firm members.....	7,698	8,226	6,290	(2)	-0.4	30.6	.....
Salaried employees.....	28,880	24,480	17,119	12,474	15.9	43.0	37.2
Wage earners (average number).....	152,182	152,993	133,167	107,704	-0.5	14.9	23.6
Primary horsepower.....	391,885	340,467	247,881	189,117	15.0	37.4	31.1
Capital.....	\$522,548,083	\$444,343,135	\$379,368,827	\$223,781,083	17.6	17.1	69.5
Salaries and wages.....	126,494,933	109,836,698	85,646,364	60,008,556	15.2	28.2	42.7
Salaries.....	37,297,456	28,938,922	19,002,238	13,294,822	28.6	52.6	42.9
Wages.....	89,197,477	80,847,776	66,644,126	46,713,734	10.3	21.3	42.7
Paid for contract work.....	2,602,416	2,667,451	2,849,428	(2)	-2.4	0.7	.....
Rent and taxes (including internal revenue).....	18,023,569	14,617,099	31,681,955	(2)	23.3	.....	.....
Cost of materials.....	388,714,859	354,411,151	252,258,417	184,189,030	9.7	40.0	37.0
Value of products.....	637,952,128	574,111,070	439,548,957	316,304,065	11.1	30.6	39.0
Value added by manufacture (value of products less cost of materials).....	249,237,269	219,699,919	187,290,540	132,115,065	13.4	17.3	41.8

<sup>1</sup> A minus sign (—) denotes decrease.

<sup>2</sup> Figures not available.

<sup>3</sup> Exclusive of internal revenue.

This table shows an increase from census to census in the value of the manufactures of the state, although the rate of increase was smaller for each succeeding five-year period—39 per cent from 1899 to 1904, 30.6 per cent from 1904 to 1909, and 11.1 per cent from 1909 to 1914.

During the period 1909-1914 the capital invested increased by \$78,204,948, or 17.6 per cent; the amount paid for salaries and wages, by \$16,658,235, or 15.2 per

cent; the value of products, by \$63,841,058, or 11.1 per cent; and the value added by manufacture, which best represents the importance of the manufactures as described in the "Explanation of terms," increased by \$29,537,350, or 13.4 per cent.

Table 2 shows the relative importance of the leading manufacturing industries in 1914 and gives percentages of increase for the three five-year periods from 1899 to 1914.



## MANUFACTURES—MISSOURI.

Table 2

Table 2	CENSUS OF 1914.							PER CENT OF INCREASE. <sup>1</sup>									
	INDUSTRY.	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
			Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
All industries.....	8,386	152,182	100.0	\$637,952,128	100.0	\$249,237,269	100.0	-0.5	14.9	23.6	11.1	30.6	39.0	13.4	17.3	41.8	
Slaughtering and meat packing.....	40	5,200	3.4	92,060,499	14.4	7,376,434	3.0	11.3	10.3	35.6	15.7	32.4	39.3	-0.1	22.8	51.0	
Boots and shoes, including cut stock and findings.....	54	14,740	9.7	52,522,006	8.2	15,390,628	6.2	-15.3	66.5	75.1	7.7	107.1	105.5	8.3	65.5	157.7	
Flour-mill and gristmill products.....	641	2,096	1.4	38,686,309	6.1	5,423,920	2.2	-4.6	-6.3	54.6	-13.1	17.0	59.6	-4.5	11.5	34.2	
Tobacco manufactures.....	431	3,997	2.6	33,380,843	5.2	19,319,470	7.8	-10.2	-15.3	0.5	7.9	0.2	10.9	34.1	-23.9	1.9	
Printing and publishing.....	1,353	10,571	6.9	33,173,414	5.2	23,602,183	9.5	-2.0	10.6	21.2	11.9	21.5	47.6	12.3	19.4	53.6	
Liquors, malt.....	32	5,947	3.9	31,801,404	5.0	24,428,671	9.8	5.3	1.4	76.8	15.9	13.6	75.3	22.9	11.0	67.2	
Foundry and machine-shop products.....	356	8,449	5.6	22,270,635	3.5	11,748,725	4.7	13.5	4.0	.....	11.5	36.0	.....	8.6	25.5	.....	
Bread and other bakery products.....	1,043	5,269	3.5	19,940,499	3.1	9,783,693	3.9	11.1	26.0	66.3	7.6	46.2	74.0	27.1	42.7	58.6	
Lumber and timber products.....	956	9,196	6.0	18,396,838	2.9	9,984,182	4.0	-32.0	6.8	11.2	-20.9	26.8	11.7	-21.1	6.0	39.4	
Clothing, men's, including shirts.....	90	8,140	5.3	17,300,109	2.7	7,263,972	2.9	1.8	31.7	-12.9	12.3	49.2	5.4	14.6	32.4	11.1	
Coffee and spice, roasting and grinding.....	37	656	0.4	14,299,135	2.2	3,350,217	1.3	-10.1	31.8	11.0	18.5	66.1	37.9	16.7	35.4	120.0	
Cars and general shop construction and repairs by steam-railroad companies.....	39	9,721	6.4	12,847,379	2.0	7,475,468	3.0	19.7	20.1	21.1	30.9	12.5	33.7	31.5	23.4	31.5	
Patent medicines and compounds and druggists' preparations.....	212	1,090	0.7	9,010,409	1.4	6,084,042	2.4	11.2	6.1	-2.8	18.0	38.6	10.8	19.2	44.7	1.0	
Copper, tin, and sheet-iron products.....	195	2,506	1.6	8,389,552	1.3	3,621,014	1.5	-5.0	18.9	144.8	7.2	36.8	.....	12.1	32.8	.....	
Food preparations, not elsewhere specified.....	54	629	0.4	7,793,604	1.2	1,646,404	0.7	33.5	-17.5	18.0	44.8	79.3	10.0	45.7	19.7	20.9	
Furniture and refrigerators.....	100	3,346	2.2	7,608,343	1.2	4,075,814	1.6	-2.4	23.4	6.7	3.1	52.6	26.1	0.6	42.2	29.7	
Confectionery.....	100	2,520	1.7	7,255,593	1.1	3,165,516	1.3	33.9	5.8	-4.7	9.0	43.8	-6.2	16.2	36.4	13.8	
Gas, illuminating and heating.....	35	1,342	0.9	7,196,994	1.1	5,054,085	2.0	42.6	-48.5	118.9	55.2	-17.0	94.1	48.0	-10.3	79.5	
Chemicals.....	22	842	0.6	6,936,122	1.1	2,772,252	1.1	36.0	-3.3	88.2	90.6	11.0	81.8	95.8	27.9	136.5	
Carriages and wagons and materials.....	223	2,560	1.7	6,850,955	1.1	3,019,396	1.2	-22.5	4.4	5.8	-19.1	10.3	19.1	-16.3	5.6	2.8	
Stoves, hot-air furnaces, and ranges.....	15	1,714	1.1	6,644,251	1.0	4,305,848	1.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Electrical machinery, apparatus, and supplies.....	19	2,560	1.7	6,643,210	1.0	4,227,457	1.7	141.5	33.3	49.2	104.3	86.7	91.1	96.9	89.2	104.1	
Brick, tile, pottery, and other clay products.....	93	5,196	3.4	6,517,288	1.0	4,520,393	1.8	-15.3	26.0	20.3	-15.9	36.3	55.7	-20.1	32.8	51.7	
Leather goods.....	133	1,419	0.9	5,859,229	0.9	2,680,046	1.1	-21.8	2.2	30.3	-10.0	21.4	50.6	-1.3	9.7	50.8	
Paint and varnish.....	34	599	0.4	5,791,895	0.9	2,042,162	0.8	-12.6	13.4	17.3	-15.2	6.7	40.5	-4.1	28.1	39.0	
Clothing, women's.....	74	2,355	1.5	5,517,015	0.9	2,482,862	1.0	-14.4	47.6	-9.9	1.4	63.7	6.3	9.9	48.3	9.9	
Butter.....	54	361	0.2	5,167,343	0.8	800,031	0.3	127.0	7.4	100.0	74.6	125.2	204.2	73.9	63.7	172.8	
Soap.....	9	521	0.3	4,919,685	0.8	2,108,865	0.8	-6.0	1.1	.....	4.3	51.6	.....	26.7	34.0	.....	
Glass.....	7	2,248	1.5	3,882,420	0.6	2,307,632	0.9	28.1	12.4	140.2	94.8	11.9	132.5	120.6	-2.5	100.9	
Wirework, including wire rope and cable.....	21	741	0.5	3,484,293	0.5	2,151,801	0.9	4.4	21.6	69.3	2.6	45.4	94.0	20.5	50.8	140.6	
Iron and steel, steel works and rolling mills.....	3	1,237	0.8	3,362,955	0.5	1,476,375	0.6	-44.5	65.1	-15.9	-32.9	67.2	-6.3	-31.5	52.7	-11.5	
Ice, manufactured.....	117	1,059	0.7	3,106,895	0.5	2,065,730	0.8	39.2	75.8	55.2	40.1	84.4	76.3	45.8	93.8	76.1	
Brass and bronze products.....	18	383	0.3	3,047,306	0.5	608,864	0.2	29.0	51.5	-26.0	37.2	45.4	19.4	7.4	65.3	10.6	
Marble and stone work.....	175	905	0.6	2,716,440	0.4	1,435,794	0.6	-32.6	52.2	34.0	-21.1	49.3	86.5	-28.0	42.3	93.5	
Leather, tanned, curried, and finished.....	10	227	0.1	2,572,987	0.4	531,377	0.2	3.2	1.4	17.3	26.4	80.4	38.1	21.9	10.7	51.5	
Poultry, killing and dressing.....	10	172	0.1	2,387,146	0.4	242,684	0.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Automobiles, including bodies and parts.....	25	504	0.3	2,182,911	0.3	976,087	0.4	37.0	.....	.....	30.2	.....	.....	40.7	.....	.....	
Millinery and lace goods.....	33	908	0.6	2,162,822	0.3	1,098,329	0.4	-2.8	206.2	-27.0	31.3	267.6	-1.8	44.1	262.9	20.0	
Confectionery (ice cream).....	54	334	0.2	1,995,834	0.3	830,188	0.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cooperage and wooden goods, not elsewhere specified.....	39	852	0.6	1,888,484	0.3	726,831	0.3	-21.7	-38.9	44.2	-38.7	-17.1	77.9	-38.2	-18.7	55.5	
Cars and general shop construction and repairs by electric-railroad companies.....	8	1,168	0.8	1,710,323	0.3	875,891	0.4	29.1	-3.2	112.5	42.1	-0.6	124.3	24.6	-2.5	132.6	
Paper goods, not elsewhere specified.....	12	578	0.4	1,681,645	0.3	755,988	0.3	32.9	43.6	332.9	82.4	54.2	59.2	43.1	73.7	25.6	
Boxes, fancy and paper.....	32	1,092	0.7	1,636,088	0.3	888,656	0.4	-1.9	31.4	28.7	18.9	78.7	57.8	25.7	73.7	25.6	
Mineral and soda waters.....	195	556	0.4	1,623,226	0.3	967,263	0.4	20.1	-4.5	.....	25.6	10.7	.....	9.5	11.0	.....	
Furnishing goods, men's.....	16	873	0.6	1,573,680	0.2	578,994	0.2	186.2	.....	.....	89.4	.....	.....	70.0	.....	.....	
Awnings, tents, and sails.....	21	428	0.3	1,551,557	0.2	560,299	0.2	-0.2	38.8	-15.6	-13.0	44.2	25.6	-2.9	39.7	-8.8	
Jewelry.....	28	461	0.3	1,088,075	0.2	687,906	0.3	22.6	49.2	49.1	24.6	48.2	77.4	25.1	55.4	57.3	
Canning and preserving.....	153	850	0.6	1,081,590	0.2	341,618	0.1	-10.7	25.6	-9.8	-31.3	19.0	.....	-40.0	20.0	.....	
Coffins, burial cases, and undertakers' goods.....	8	436	0.3	1,038,077	0.2	452,213	0.2	-19.3	11.3	38.6	-33.7	25.6	60.8	-42.7	31.9	111.3	
Flavoring extracts.....	12	100	0.1	1,008,583	0.2	437,349	0.2	25.0	-9.1	7.3	55.7	31.7	73.8	16.2	53.6	98.2	
Photographic materials.....	5	191	0.1	1,006,790	0.2	557,191	0.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	
All other industries.....	940	22,337	14.7	95,381,443	15.0	29,928,469	12.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	

<sup>1</sup> Percentages are based on figures in Table 36; a minus sign (-) denotes decrease; percentages are omitted where base is less than 100, or where comparable figures can not be given.

Separate statistics are presented for 51 industries, or industry groups, for each of which products valued at more than \$1,000,000 were reported for 1914. These industries include 2 with products valued at more than \$50,000,000, 4 with products between \$30,000,000 and \$50,000,000, 6 with products between \$12,000,000 and \$30,000,000, 15 with products

between \$5,000,000 and \$10,000,000, 11 with products between \$2,000,000 and \$5,000,000, and the remaining 13 with products between \$1,000,000 and \$2,000,000. In addition to those industries shown, there are 14 with products valued at more than \$1,000,000 included in "all other industries" in order to avoid the possibility of disclosing individual operations; the

most important of these are the manufacture of steam-railroad cars, not including the operations of railroad companies; bags, other than paper; cement; explosives; and the smelting and refining of lead and the refining of petroleum.

The industries in this table are arranged in the order of their importance as shown by value of products, but the arrangement would vary considerably if based on average number of wage earners or value added by manufacture.

Slaughtering and meat packing as measured by the value of products is the most important industry in this state. Though first in value of products, the industry ranked ninth in number of wage earners and value added by manufacture. The boot and shoe industry ranked second in value of products, first in number of wage earners, and fourth in value added by manufacture. Printing and publishing, the fifth industry as measured by value of products, is second in number of wage earners and value added by manufacture. Malt liquors, ranking sixth, and tobacco manufactures, ranking fourth in value of products, are first and third, respectively, as measured by value added by manufacture; for both of these industries, however, it should be remembered that the amount paid for internal revenue is included in the value of products. Foundry and machine-shop products ranks seventh in value of products and fifth in both number of wage earners and value added by manufacture.

The industries in the table showing the greatest relative increases in value of products from 1909 to 1914 are electrical machinery, apparatus, and supplies, increasing 104.3 per cent; the manufacture of glass, 94.8 per cent; the manufacture of chemicals, 90.6 per cent; men's furnishing goods, 89.4 per cent; and paper goods, not elsewhere specified, 82.4 per cent.

Although certain industries predominate, it will be seen from Table 2 that there is a considerable diversity in the manufacturing activities of the state. The most important industries call for brief consideration.

*Slaughtering and meat packing.*—This industry includes wholesale slaughtering and meat-packing establishments and also 9 establishments, with products valued at \$452,378, engaged primarily in the manufacture of sausage. Missouri is one of the principal cattle and hog raising states. According to the census of agriculture of 1909, there were 1,596,294 cattle and calves and 5,374,746 swine sold and slaughtered during the year. The abundance of food animals in this and adjoining states has fostered the slaughtering industry, and the state ranked fifth among the states in the value of products for the industry in 1914. The industry is largely centralized in the stockyards of South St. Joseph and St. Louis.

*Boots and shoes, including cut stock and findings.*—This classification includes not only the manufacture of boots and shoes but also the manufacture of boot and shoe cut stock and findings. The 54 establishments shown in the table include 48 making boots and

shoes, 1 making moccasins, 3 manufacturing cut stock, and 2 findings.

The industry, all branches combined, ranked second among the industries in the state in value of products in both 1914 and 1909, and gave employment to the largest number of wage earners, 14,740, or 9.7 per cent of the total number reported for all industries in 1914. The value of products and value added by manufacture both increased during the five-year period. The increase shown for the period 1909–1914 is due to the increase in the value of products of those establishments making cut stock and findings, as the product of the boot and shoe factories decreased during the period. St. Louis, however, is one of the principal centers of the boot and shoe industry in the country, and there are large establishments in a number of the other cities of the state.

*Flour-mill and gristmill products.*—This industry does not include statistics for the small custom mills grinding exclusively for local consumption. Notwithstanding the decrease shown for the period 1909–1914 the industry ranked third in both 1914 and 1909, as measured by value of products. The number of wage earners employed and the value added by manufacture, as compared with other industries, are relatively small, because the processes are largely performed by machinery and comparatively few wage earners are required.

*Tobacco manufactures.*—In 1914 this industry included 15 establishments engaged primarily in the manufacture of chewing and smoking tobacco, 415 in the manufacture of cigars, and 1 in the manufacture of cigarettes. The 431 establishments gave employment to 2.6 per cent of the total number of wage earners in all industries in the state, reported 5.2 per cent of the total value of products and 7.8 per cent of the value added by manufacture. The increase in value of products for the period 1909–1914 amounted to 7.9 per cent and in value added by manufacture to 34.1 per cent.

*Printing and publishing.*—This classification includes establishments engaged in printing and publishing; bookbinding and blank-book making; engraving, steel and copper plate, including plate printing; and lithographing. These industries combined rank fifth in value of products and second in both average number of wage earners and value added by manufacture. As compared with 1909, the number of wage earners reported in 1914 shows a decrease, but the value of products and value added by manufacture show substantial increases, 11.9 per cent and 12.3 per cent, respectively.

*Liquors, malt.*—Missouri ranked fifth in the value of malt liquors manufactured in 1909, but in 1914 it held sixth place. The industry held the same relative rank at the two censuses (fifth and sixth) among the industries of the state. Notwithstanding these proportional decreases, there was an actual increase during the five-year period 1909–1914 of \$4,354,900, or 15.9

per cent, in value of products; \$4,549,923, or 22.9 per cent, in value added by manufacture; and 301, or 5.3 per cent, in average number of wage earners employed.

The high ranking of the malt-liquor industry in value of products and value added by manufacture is due in large part to the fact that these items include the amount of internal-revenue taxes paid, for which reason the value added by manufacture represents much more than the value actually added to the materials by the manufacturing processes. As a result, the importance of the industry, as measured by either value of products or value added by manufacture, is considerably exaggerated.

*Foundry and machine-shop products.*—In addition to the foundries and machine shops, this industry includes the repairs to automobiles; the manufacture of bells; engines; gas machines, and gas and water meters; hardware; saddlery hardware; plumbers' supplies; steam fittings; and the fabrication of structural iron and steel. The industry as a whole ranks seventh in value of products and fifth in average number of wage earners for 1914 among the industries of the state. The number of establishments increased from 329 to 356 during the period from 1909 to 1914; there was also an increase of 13.5 per cent in the average number of wage earners, 11.5 per cent in value of products, and 8.6 per cent in value added by manufacture.

*Bread and other bakery products.*—In addition to establishments supplying the local trade, the location in Kansas City and St. Louis of large wholesale bakeries increases the importance of this industry, which ranks eighth in the state when measured by value of products. The industry gave employment to 5,269 wage earners and reported products valued at \$19,940,499. These figures show increases over 1909 of 11.1 per cent and 7.6 per cent, respectively.

*Lumber and timber products.*—Under this head are included statistics for logging and sawmill operations, for planing mills, and establishments manufacturing wooden packing boxes and window and door screens and weather strips. The industry gave employment during the year 1914 to an average of 9,196 wage earners, with products valued at \$18,396,838. These figures represent 6 per cent and 2.9 per cent of the respective totals reported for all manufacturing industries of the state. The decreases in number of establishments, average number of wage earners, value of products, and value added by manufacture are due to a depression in the industry during 1914 and also to some extent to the fact that some of the smaller mills reported as engaged in merchant sawing in 1909 were doing only custom work in 1914 and, therefore, were not enumerated. Mills engaged exclusively in custom sawing for the immediate neighborhood should not be included in the census of manufactures, but it is not always possible to conduct the canvass in regard to the omission of these establishments on uniform lines in all sections of the country at different censuses.

*Clothing, men's, and clothing, women's.*—These industries include the manufacture of men's outer clothing and shirts and also the manufacture of suits, skirts, cloaks, shirt waists, dresses, undergarments, petticoats, and wrappers for women's wear.

The manufacture of men's clothing ranks tenth among the industries of Missouri, contributing 2.7 per cent of value of products and giving employment to 5.3 per cent of all wage earners reported. The combined industries employed 10,495 wage earners and reported products valued at \$22,817,124, representing 6.9 per cent and 3.6 per cent, respectively, of the totals for the state. Both industries show increases in 1914 as compared with 1909, except in number of wage earners reported for the manufacture of women's clothing.

#### Persons engaged in manufacturing industries.

Table 3 shows, for 1914 and 1909, the number of persons engaged in manufactures, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

CLASS.	Census year.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.				
		Total.	Male.	Female.	Per cent of total.	
					Male.	Female.
All classes .....	1914	188,266	150,461	37,815	79.9	20.1
	1909	185,705	150,750	34,955	81.2	18.8
Proprietors and officials.....	1914	14,809	14,340	469	96.8	3.2
	1909	14,820	14,423	397	97.3	2.7
Proprietors and firm members..	1914	7,698	7,426	272	96.5	3.5
	1909	8,226	7,989	237	97.1	2.9
Salaried officers of corporations..	1914	3,328	3,209	119	96.4	3.6
	1909	3,010	2,924	86	97.1	2.9
Superintendents and managers..	1914	3,783	3,705	78	97.9	2.1
	1909	3,584	3,510	74	97.9	2.1
Clerks and other subordinate salaried employees.	1914	21,275	16,483	4,792	77.5	22.5
	1909	17,892	14,061	3,831	78.6	21.4
Wage earners (average number).....	1914	152,182	119,628	32,554	78.6	21.4
	1909	152,993	122,266	30,727	79.9	20.1
16 years of age and over .....	1914	150,390	118,650	31,740	78.9	21.1
	1909	149,175	119,980	29,195	80.4	19.6
Under 16 years of age.....	1914	1,792	978	814	54.6	45.4
	1909	3,818	2,286	1,532	59.0	40.1

Of the total number of persons employed in 1914, 152,182, or 80.8 per cent, were wage earners, and of this number, 78.6 per cent were males. The proportions of females engaged in the manufactures show increases over 1914 for every class, except for superintendents and managers. The largest proportions of females shown were for clerks and other subordinate salaried employees, 22.5 per cent, and wage earners, 21.4 per cent.

Table 4 gives, for the several classes of persons engaged in manufactures, the percentages of increase from 1909 to 1914 and the per cent distribution at the two censuses.

The increase of 1.4 per cent in number of persons engaged in the manufactures of the state during

the period 1909 to 1914 is due to the increase in the number of females. Of the classes shown, the largest increases are for salaried officers of corporations, 10.6 per cent, and for clerks and other subordinate salaried employees, 18.9 per cent. The number of female employees increased in every class, except

wage earners under 16 years of age. There has been a marked decrease in the employment of child labor, the number decreasing from 3,818 in 1909 to 1,792 in 1914, or 53.1 per cent. The proportion of wage earners under 16 decreased from 2.1 per cent in 1909 to nine-tenths of 1 per cent in 1914.

Table 4

Table 4	CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
		Per cent of increase, <sup>1</sup> 1909-1914.			Per cent distribution.					
		Total.	Male.	Female.	Total.		Male.		Female.	
					1914	1909	1914	1909	1914	1909
All classes.....	1.4	-0.2	8.2	100.0	100.0	100.0	100.0	100.0	100.0	
Proprietors and officials.....	-0.1	-0.6	18.1	7.9	8.0	9.5	9.6	1.2	1.1	
Proprietors and firm members.....	-6.4	-7.0	14.8	4.1	4.4	4.9	5.3	0.7	0.7	
Salaried officers of corporations.....	10.6	9.7	.....	1.8	1.6	2.1	1.9	0.3	0.2	
Superintendents and managers.....	5.6	5.6	.....	2.0	1.9	2.5	2.3	0.2	0.2	
Clerks and other subordinate salaried employees.....	18.9	17.2	25.1	11.3	9.6	11.0	9.3	12.7	11.0	
Wage earners (average number).....	-0.5	-2.2	5.9	80.8	82.4	79.5	81.1	86.1	87.9	
16 years of age and over.....	0.8	-1.1	8.7	79.9	80.3	78.9	79.6	83.9	83.5	
Under 16 years of age.....	-53.1	-57.2	-46.9	0.9	2.1	0.6	1.5	2.2	4.4	

<sup>1</sup> A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

In order to compare the distribution of persons engaged in manufactures in 1914 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See "Explanation of terms.") Table 5 makes this comparison according to occupational status.

Table 5

CLASS.	PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.								
	Number.			Per cent distribution.			Per cent of increase. <sup>1</sup>		
	1914	1909	1904	1914	1909	1904	1909-1914	1904-1909	
Total.....	188,266	185,705	156,585	100.0	100.0	100.0	1.4	18.6	
Proprietors and firm members.....	7,698	8,226	6,299	4.1	4.4	4.0	-6.4	30.6	
Salaried employees.....	28,386	24,480	17,119	15.1	13.2	10.9	15.9	43.0	
Wage earners (average).....	152,182	152,993	133,167	80.8	82.4	85.0	-0.5	14.9	

<sup>1</sup> A minus sign (—) denotes decrease.

This table shows an increase in the total number of employees for each of the five-year periods, the increase for the decade being 20.2 per cent. Proprietors and firm members decreased 6.4 per cent during the later five-year period, while salaried employees increased. This is partly due to the fact that some establishments operated by individuals or firms in 1909 became incorporated between the censuses. It is probable that some of the persons reported as proprietors or firm members of such establishments in 1909 were reported as salaried officials in 1914.

The average number of wage earners employed and their per cent distribution as males 16 years of age and over, females 16 years of age and over, and children under 16 years of age are given in Table 6, for 1914, 1909, and 1904. The table also shows, for some of the important industries separately, a similar distribution of wage earners for 1914 and 1909.

Table 6

INDUSTRY.	Census year.	WAGE EARNERS.			
		Average number. <sup>1</sup>	Per cent of total.		
			16 years of age and over.		Under 16 years of age.
			Male.	Female.	
All industries.....	1914 1909 1904	152,182 152,993 133,167	79.0 78.4 79.5	19.9 19.1 17.1	1.1 2.5 3.4
Boots and shoes, including cut stock and findings.....	1914 1909	14,740 17,396	63.6 60.6	35.1 31.8	1.3 7.6
Boxes, fancy and paper.....	1914 1909	1,092 1,113	29.0 26.6	63.0 62.1	8.0 11.3
Bread and other bakery products.....	1914 1909	5,269 4,743	65.5 68.1	33.2 29.0	1.3 2.8
Brick, tile, pottery, and other clay products.....	1914 1909	5,196 6,137	99.3 98.4	0.2 0.1	0.5 1.5
Carriages and wagons and materials.....	1914 1909	2,560 3,302	98.2 97.5	1.5 2.2	0.2 0.4
Cars and general shop construction and repairs by electric-railroad companies.....	1914 1909	1,168 905	99.9 99.6	0.1 0.1	..... 0.3
Cars and general shop construction and repairs by steam-railroad companies.....	1914 1909	9,721 8,121	99.9 99.9	0.1 0.1	..... .....
Clothing, men's, including shirts.....	1914 1909	8,140 7,994	22.6 21.5	76.1 76.4	1.3 2.1
Clothing, women's.....	1914 1909	2,355 2,750	20.6 18.7	77.1 79.1	2.3 2.2
Confectionery.....	1914 1909	2,520 1,882	37.9 38.6	61.1 59.4	1.0 2.1
Copper, tin, and sheet-iron products.....	1914 1909	2,506 2,637	85.2 91.8	13.4 6.8	1.4 1.4
Electrical machinery, apparatus, and supplies.....	1914 1909	2,560 1,060	76.2 73.4	22.6 18.8	1.2 2.8
Flour-mill and gristmill products.....	1914 1909	2,096 2,198	99.1 99.3	0.8 0.4	0.1 0.4
Foundry and machine-shop products.....	1914 1909	8,449 7,443	98.9 98.8	0.3 0.4	0.8 0.8
Furniture and refrigerators.....	1914 1909	3,346 3,427	97.3 95.0	1.9 2.4	0.9 2.6
Gas, illuminating and heating.....	1914 1909	1,342 941	100.0 99.9	..... .....	..... 0.1

<sup>1</sup> For method of estimating the distribution by sex and age periods of the average number for all industries combined see "Explanation of terms."

## MANUFACTURES—MISSOURI.

Table 6—Continued.

INDUSTRY.	Census year.	WAGE EARNERS.				
		Average number. <sup>1</sup>	Per cent of total.			
			16 years of age and over.		Under 16 years of age.	
			Male.	Female.		
Glass.....	1914 1909	2,248 1,755	98.3 98.4	1.4 0.9	0.3 0.7	
Ice, manufactured.....	1914 1909	1,059 761	99.2 99.7	0.1 0.1	0.7 0.1	
Iron and steel, steel works and rolling mills.....	1914 1909	1,237 2,227	99.9 99.6	.....	0.1 0.4	
Leather goods.....	1914 1909	1,419 1,814	94.2 89.7	5.1 9.5	0.6 0.8	
Liquors, malt.....	1914 1909	5,947 5,646	95.0 90.5	4.9 8.5	0.1 1.1	
Lumber and timber products.....	1914 1909	9,196 13,522	97.6 97.6	0.6 0.5	1.8 1.8	
Patent medicines and compounds and druggists' preparations.....	1914 1909	1,090 980	44.7 40.3	53.6 57.7	1.7 2.0	
Printing and publishing.....	1914 1909	10,571 10,790	74.5 71.5	23.8 26.0	1.7 2.5	
Slaughtering and meat packing.....	1914 1909	5,200 4,674	95.9 96.6	4.0 3.3	0.1 0.1	
Tobacco manufactures.....	1914 1909	3,997 4,453	65.3 62.3	31.9 36.2	2.8 1.5	
All other industries.....	1914 1909	37,158 34,322	80.1 77.4	18.7 18.7	1.2 3.9	

<sup>1</sup> For method of estimating the distribution by sex and age periods of the average number for all industries combined see "Explanation of terms."

The table shows that in 1914, 79 per cent of the wage earners were men, a slightly greater proportion

than that shown for 1909, but a decrease as compared with 1904. There has been an increase in the relative number of women employed at each successive census since 1904 and a decrease in the wage earners under 16 years of age. The decrease, though slight, indicates the increasing tendency to reduce child labor.

Of the 26 industries shown in the table, 13 reported more wage earners for 1914 than 1909. Female wage earners predominate in establishments engaged in the manufacture of fancy and paper boxes, men's clothing, women's clothing, confectionery, and patent medicines and compounds. Sixteen industries show increases over 1909 in the proportion of males employed and 11 in the proportion of females. Only three industries show increases in the proportion of wage earners under 16 years of age, and the largest of these increases is but 1.3 per cent. Among the industries shown in the table, two reporting wage earners under 16 years of age in 1909 reported none in this class in 1914.

Table 7 shows the average number and the per cent distribution of wage earners employed in each of 13 cities having more than 10,000 inhabitants, classified according to age periods, and of those 16 years of age and over according to sex, for 1914, 1909, and 1904. Statistics for Independence can not be shown separately without disclosing individual operations.

Table 8 gives percentages of increase from census to census, based on the figures in Table 7, for cities where per cent of increase can be computed.

Table 7

## AVERAGE NUMBER OF WAGE EARNERS IN MANUFACTURING INDUSTRIES.

CITY.	Total.			16 years of age and over.						Under 16 years of age.			Per cent of total.								
				Male.			Female.						16 years of age and over.						Under 16 years of age.		
													Male.			Female.					
																			1914	1909	1904
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904			
Cape Girardeau.....	1,259			1,040			212			7			82.6			16.8			0.6		
Columbia.....	479			352			126			1			73.5			26.3			0.2		
Hannibal.....	2,366	2,445	1,811	1,877	1,808	1,334	486	542	1,324	3	95	153	79.3	73.9	73.7	20.5	22.2	17.9	0.1	3.9	8.4
Jefferson City.....	1,401	651		738	2,450		606	2,171		57	30		52.7	69.1		43.3	26.3		4.1	4.6	
Joplin.....	1,156	830	680	964	659	634	185	168	40	7	3	6	83.4	79.4	93.2	16.0	20.2	5.9	0.6	0.4	0.9
Kansas City.....	16,252	14,643	11,039	12,276	10,841	8,444	3,900	3,562	2,313	76	240	282	75.5	74.0	76.5	24.0	24.3	21.0	0.5	1.6	2.6
Moberly.....	1,411	999		1,264	860		138	118		9	21		89.6	86.1		9.8	11.8		0.6	2.1	
St. Charles.....	1,683			1,426			256			1			84.7			15.2			0.1		
St. Joseph.....	4,914	5,390	4,663	3,108	3,268	2,773	1,798	2,035	1,799	8	87	91	63.2	60.6	59.5	36.6	37.8	38.6	0.2	1.6	2.0
St. Louis.....	85,058	87,371	82,698	63,697	65,802	62,626	20,159	19,105	16,772	1,202	2,464	3,300	74.9	75.3	75.7	23.7	21.9	20.3	1.4	2.8	4.0
Sedalia.....	903	935	974	777	768	754	120	163	207	6	4	13	86.0	82.1	77.4	13.3	17.4	21.3	0.7	0.4	1.3
Springfield.....	2,009	2,131	2,158	1,886	2,020	2,042	117	98	62	6	13	54	93.9	94.8	94.6	5.8	4.6	2.9	0.3	0.6	2.5
Webb City.....	136	170		124	146		6	24		6			91.2	85.9		4.4	14.1		4.4		

<sup>1</sup> Figures do not agree with those published, because it was necessary to revise them in order to include data only for those establishments located within the corporate limits of the city.

<sup>2</sup> Figures do not agree with those published in 1909, as convicts employed in the penitentiary were included at that census but have been excluded in order to make the totals comparable with those for 1904 and 1914.

Male wage earners predominate in all of the cities; only 3 of the 10 cities which were shown separately in 1909 reported a larger proportion of female wage earners in 1914, and 2 reported a larger proportion of children employed. Jefferson City, where the chief industries are the manufacture of boots and shoes and clothing, reported the largest proportion (43.3 per cent)

of female wage earners in 1914 and Webb City the largest proportion (4.4 per cent) of wage earners under 16 years of age. Three cities reported females as constituting less than 10 per cent of the wage earners.

Of the total number of wage earners reported for the state, 55.9 per cent were employed in St. Louis. The number employed in the manufactures of the city

increased 2.9 per cent, during the decade and decreased 2.6 per cent during the period 1909-1914. The number of male wage earners reported for 1914 was a decrease of 3.2 per cent from the number for 1909, but the number of female wage earners increased by 5.5 per cent. The number of children decreased by 51.2 per cent.

CITY.	PER CENT OF INCREASE IN AVERAGE NUMBER OF WAGE EARNERS. <sup>1</sup>				
	Period.	Total.	16 years of age and over.		Under 16 years of age.
			Male.	Female.	
Hannibal.....	1904-1914	30.6	40.7	50.0	-98.0
	1909-1914	-5.2	3.8	-10.3	
	1904-1909	35.0	35.5	67.3	-37.9
Jefferson City.....	1904-1914	434.7	286.4		
	1909-1914	115.2	64.0	254.4	
Joplin.....	1904-1914	70.0	52.1		
	1909-1914	39.3	46.3	10.1	
	1904-1909	22.1	3.9		
Kansas City.....	1904-1914	47.2	45.4	68.6	-73.0
	1909-1914	11.0	13.2	9.5	-68.3
	1904-1909	32.6	28.4	54.0	-14.0
Moberly.....	1904-1914	184.5	159.5		
	1909-1914	41.2	47.0	16.9	
St. Joseph.....	1904-1914	5.4	12.1	-0.1	
	1909-1914	-8.8	-4.9	-11.6	
	1904-1909	15.6	17.9	13.1	
St. Louis.....	1904-1914	2.9	1.7	20.2	-63.6
	1909-1914	-2.6	-3.2	5.5	-51.2
	1904-1909	5.7	5.1	13.9	-25.3
Sedalia.....	1904-1914	-7.3	3.1	-42.0	
	1909-1914	-3.4	1.2	-26.4	
	1904-1909	-4.0	1.9	-21.3	
Springfield.....	1904-1914	-6.9	-7.6		
	1909-1914	-5.7	-6.6		
	1904-1909	-1.3	-1.1		
Webb City.....	1904-1914	-1.4	2.5		
	1909-1914	-20.0	-15.1		

<sup>1</sup> A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

Kansas City reported 16,252 as the average number of wage earners in 1914 and shows an increase for each five-year period for both males and females but decreases in the number of children employed.

**Wage earners employed, by months.**—Table 9 presents, for all industries combined, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

MONTH.	WAGE EARNERS IN MANUFACTURING INDUSTRIES.					
	Number. <sup>1</sup>			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	151,293	141,268	126,243	96.4	88.4	90.9
February.....	151,799	145,022	127,254	96.7	88.7	91.6
March.....	155,240	148,776	132,872	98.9	91.0	95.7
April.....	156,968	147,979	132,504	100.0	90.5	95.4
May.....	155,556	148,053	133,797	99.1	90.5	96.3
June.....	156,296	150,028	133,738	99.6	91.8	96.3
July.....	156,263	150,969	131,943	99.6	92.3	95.0
August.....	155,366	157,351	136,800	99.0	96.2	98.5
September.....	154,431	163,514	138,887	98.4	100.0	100.0
October.....	152,048	161,110	138,091	96.9	98.5	99.4
November.....	141,558	161,540	134,365	90.2	98.8	96.7
December.....	139,366	160,294	131,420	88.8	98.0	94.6

<sup>1</sup> The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

For 1914 the spring and summer months show the greatest activity in the combined industries of the state, the maximum number of wage earners appearing for April and the minimum for December of that year. In 1909 and 1904, however, the maximum number was employed in September and the minimum in January. The minimum number, in 1914, represented 88.8 per cent of the maximum; in 1909 the smallest number employed in any month represented 86.4 per cent of the largest number. The greatest stability in employment is shown for 1904, when the difference between the maximum and minimum months was but 9.1 per cent of the maximum.

Table 10 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for the combined industries of the state, for a number of selected industries, and for the total industries of each of 13 cities having more than 10,000 inhabitants.

Of the 19 industries for which statistics are given in the table, the greatest stability of employment is shown for printing and publishing, tobacco manufactures, steam-railroad repair shops, bakeries, and lumber and timber products. For none of these was the fluctuation greater than 10 per cent. The boot and shoe industry shows the greatest variation in number of wage earners employed, the smallest number representing 65.5 per cent of the largest. This is probably due to the depression in the industry during 1914.

**Table 10**

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by **boldface** figures and that of minimum by *italic* figures.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	152,182	151,293	151,799	155,240	<b>156,968</b>	155,556	156,296	156,263	155,366	154,431	152,048	141,558	<i>139,366</i>	88.8
Boots and shoes, including cut stock and findings.....	14,740	15,498	15,769	16,334	<b>16,687</b>	15,908	15,455	15,341	13,789	14,577	13,604	<i>10,916</i>	13,022	65.5
Bread and other bakery products....	5,269	5,136	5,097	5,104	5,133	<i>2,066</i>	5,130	5,274	5,309	5,422	<b>5,565</b>	5,529	5,473	90.9
Brick, tile, pottery, and other clay products.....	5,196	4,723	<i>4,124</i>	4,997	5,457	5,935	<b>5,968</b>	5,926	5,792	5,372	5,040	4,771	<i>4,247</i>	69.1
Carriages and wagons and materials..	2,560	2,445	2,519	2,664	2,998	<b>3,000</b>	2,940	2,763	2,585	2,384	2,220	2,142	<i>2,060</i>	68.7
Cars and general shop construction and repairs by steam-railroad companies.....	9,721	9,524	<i>9,405</i>	9,504	9,602	9,714	9,919	<b>10,178</b>	9,988	9,785	9,797	9,799	9,437	92.4



## MANUFACTURES—MISSOURI.

Table 10—Continued.

WAGE EARNERS: 1914.  
[Month of maximum employment for each industry is indicated by **boldface** figures and that of minimum by *italic* figures.]

INDUSTRY AND CITY.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Clothing, men's, including shirts.....	8,140	<b>9,222</b>	9,119	9,092	8,525	8,166	8,276	8,286	8,178	<i>6,520</i>	6,903	7,519	7,874	70.7
Clothing, women's.....	2,355	2,335	2,489	<b>2,658</b>	2,494	2,348	2,337	2,297	2,337	2,543	2,419	<i>2,045</i>	2,058	79.9
Confectionery.....	2,520	2,417	2,410	2,359	<i>2,289</i>	2,401	2,394	<b>2,332</b>	2,517	2,902	<b>3,020</b>	2,620	2,569	78.1
Copper, tin, and sheet-iron products.....	2,506	2,320	2,420	2,537	2,635	2,601	2,600	<b>2,709</b>	2,700	2,664	2,503	2,295	<i>2,188</i>	80.8
Electrical machinery, apparatus, and supplies.....	2,560	<b>2,856</b>	2,740	2,729	2,705	2,648	2,566	2,662	2,540	2,320	2,382	2,298	<i>2,274</i>	70.6
Flour-mill and gristmill products.....	2,096	2,011	2,030	2,045	1,970	<i>1,966</i>	1,978	2,209	2,230	<b>2,244</b>	2,206	2,126	2,137	87.6
Foundry and machine-shop products.....	8,449	8,634	8,763	8,792	<b>8,799</b>	8,687	8,673	8,777	8,761	8,543	7,854	<i>7,539</i>	7,566	85.7
Furniture and refrigerators.....	3,346	3,164	3,310	3,447	<b>3,455</b>	3,439	3,442	3,382	3,432	3,409	3,367	3,253	<i>3,052</i>	88.3
Glass.....	2,248	2,388	2,503	2,636	<b>2,690</b>	2,300	1,951	1,839	1,884	2,493	2,125	2,241	<i>2,211</i>	68.4
Liquors, malt.....	5,947	5,669	5,663	5,685	5,824	5,977	6,443	<b>6,509</b>	6,454	6,025	5,821	5,726	<i>5,568</i>	85.5
Lumber and timber products.....	9,196	9,023	<i>8,647</i>	9,315	9,370	9,385	9,457	<b>9,548</b>	9,184	9,073	9,317	9,208	8,825	90.6
Printing and publishing.....	10,571	10,768	10,844	10,938	10,800	10,574	10,461	<i>10,314</i>	10,372	10,491	10,499	10,382	10,409	94.3
Slaughtering and meat packing.....	5,200	5,473	5,223	5,218	5,033	4,850	5,147	5,108	<i>4,678</i>	4,860	5,512	<b>5,669</b>	5,629	82.5
Tobacco manufactures.....	3,997	3,841	4,062	4,092	4,044	4,075	4,020	3,946	4,048	4,056	<i>3,837</i>	3,890	<i>3,890</i>	93.8
All other industries.....	45,565	43,846	44,662	45,194	46,568	46,557	47,084	46,693	48,735	<b>49,365</b>	47,470	41,759	<i>38,847</i>	78.7
Total for cities <sup>1</sup> .....	119,027	119,373	120,830	122,834	<b>124,341</b>	122,637	122,813	122,512	119,512	118,483	116,641	109,795	<i>108,553</i>	87.3
CAPE GIRARDEAU.....	1,259	1,273	1,302	1,298	1,330	1,314	1,295	1,305	1,280	1,266	1,184	<i>1,078</i>	1,183	81.1
COLUMBIA.....	479	593	572	578	548	280	194	477	514	534	504	493	481	32.7
HANNIBAL.....	2,366	2,281	2,285	2,337	2,387	2,393	<b>2,484</b>	2,409	2,475	2,439	2,376	2,332	<i>2,194</i>	88.3
JEFFERSON CITY.....	1,401	1,274	1,366	1,400	1,454	1,495	1,484	1,530	1,531	1,502	1,387	1,283	<i>1,106</i>	72.2
JOPLIN.....	1,156	<i>1,086</i>	1,106	1,118	1,146	1,189	1,187	1,206	1,187	1,198	1,104	1,161	1,134	90.0
KANSAS CITY.....	16,252	15,710	15,821	16,060	16,245	16,309	16,632	17,014	<b>17,114</b>	16,564	16,241	15,798	<i>15,516</i>	90.7
MOBERLY.....	1,411	1,334	1,360	1,353	<i>1,330</i>	1,411	1,420	1,393	1,429	1,469	1,514	1,433	1,486	87.8
ST. CHARLES.....	1,683	1,685	1,722	1,812	1,746	1,688	1,526	1,696	1,831	<b>1,867</b>	1,757	1,496	<i>1,370</i>	73.4
ST. JOSEPH.....	4,914	<i>4,595</i>	4,641	4,826	4,809	4,843	4,945	4,930	5,074	5,139	5,350	5,012	4,804	85.9
ST. LOUIS.....	85,058	86,705	87,840	89,175	<b>90,433</b>	88,725	88,524	87,126	83,743	83,251	82,080	76,721	<i>76,373</i>	84.5
SEDALIA.....	903	786	793	792	786	784	847	1,032	1,075	<b>1,083</b>	999	933	926	72.4
SPRINGFIELD.....	2,009	1,924	1,896	1,962	1,999	2,093	2,133	2,248	2,114	2,027	1,941	1,928	<i>1,843</i>	82.6
WEBB CITY.....	136	127	126	123	128	133	142	146	145	144	144	137	137	84.2

<sup>1</sup> Statistics for Independence can not be shown without disclosing individual operations.

Among the cities, Kansas City shows little change in employment from month to month, the minimum number being only 9.3 per cent less than the maximum. Columbia shows the greatest fluctuation in number of wage earners employed, the minimum number being 32.7 per cent of the maximum. This condition is abnormal, because the boot and shoe industry, the largest in the city, reported but few wage earners for two months of the year. For the other cities, there was considerable stability of employment during the entire year 1914. The fluctuation shown was greatest (72.2 per cent) for Jefferson City and least (90 per cent) for Joplin.

**Prevailing hours of labor.**—In Table 11 the average number of wage earners reported for 1914 and 1909, for all industries combined and for selected industries, have been classified according to number of hours of labor per week prevailing in the establishments in which they were employed. A similar classification is given for 1914 only, for all industries combined, in 13 cities having more than 10,000 inhabitants. The number employed in each establishment is classified as a total, even though a few employees worked a greater or smaller number of hours.

The figures in this table show a tendency toward a shorter working day. In 1914, 62.7 per cent of the wage earners reported, for all industries combined, were employed in establishments where the working

hours were 54 or less per week, compared with 46.2 per cent similarly employed in 1909. The largest percentage of wage earners, 31.2, was employed by establishments operated 54 hours per week. The proportion of wage earners employed in establishments where the prevailing hours of labor were more than 54 but not more than 60 decreased 33.3 per cent during the period 1909-1914.

For the industries shown separately in the table, the manufacture of men's clothing and women's clothing, malt liquors, and printing and publishing show a majority of the wage earners employed in establishments working less than 54 hours per week.

The boot and shoe industry, including cut stock and findings, which employs more wage earners than any other industry in the state, shows no establishment in which the working hours were more than 60 per week. The bakeries reported 60.5 per cent of the wage earners in establishments operating 60 hours in 1909, while in 1914, 64.4 per cent were employed in establishments operating 54 hours per week.

The steam-railroad repair shops and flour-mills and gristmills are the only industries showing, for 1914, a considerable number of wage earners in establishments operating more than 60 hours per week, and these reported but 20.7 per cent and 38.7 per cent, respectively, so employed.

Table 11

INDUSTRY AND CITY.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.								
		Total.	In establishments where the prevailing hours of labor per week were—							
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	1914	152,182	28,576	19,252	47,528	20,480	29,786	4,573	653	1,334
	1909	152,993	23,276	10,671	36,711	28,934	46,446	3,350	1,737	1,868
Boots and shoes, including cut stock and findings.....	1914	14,740	123	881	6,349	6,993	394			
	1909	17,396	4		2,464	9,917	5,011			
Bread and other bakery products.....	1914	5,269	485	496	3,392	147	589	135	17	8
	1909	4,743	252	181	1,122	215	2,870	66	21	16
Brick, tile, pottery, and other clay products.....	1914	5,196	13	172	709	1,094	3,148			60
	1909	6,137	82	5	283	1,732	3,940	33	62	
Carriages and wagons and materials.....	1914	2,560	96	501	363	921	679			
	1909	3,302	471	182	881	417	1,220	130	1	
Cars and general shop construction and repairs by steam-railroad companies.....	1914	9,721	2,658	169	4,807		70	1,977	40	
	1909	8,121	1,397		5,237	539	280	647		21
Clothing, men's, including shirts.....	1914	8,140	2,190	4,919	952	76	3			
	1909	7,994	2,174	3,024	2,180	503	113			
Clothing, women's.....	1914	2,355	454	1,069	826		6			
	1909	2,750	134	956	1,158	462	40			
Confectionery.....	1914	2,520	38	796	761	417	494	7		7
	1909	1,882	289	123	432	237	799	2		
Copper, tin, and sheet-iron products.....	1914	2,506	472	537	898	558	41			
	1909	2,637	593	128	443	800	613			
Electrical machinery, apparatus, and supplies.....	1914	2,560	329	424	1,751	52	4			
	1909	1,060	27	239	636	150	8			
Flour-mill and gristmill products.....	1914	2,006	116	5	104	11	1,049	557	251	3
	1909	2,198	119	6	32	6	949	368	709	9
Foundry and machine-shop products.....	1914	8,449	642	623	5,279	656	1,249			
	1909	7,443	200	561	4,661	664	1,357			
Furniture and refrigerators.....	1914	3,346	841	485	1,003	282	735			
	1909	3,427	488	392	727	250	1,570			
Glass.....	1914	2,248	11	448	35		1,754			
	1909	1,755		102		224		1,066	363	
Liquors, malt.....	1914	5,947	5,226		37	502	66	116		
	1909	5,646	4,755	4	789	7	78			13
Lumber and timber products.....	1914	9,196	610	1,125	1,198	635	5,527	100	1	
	1909	13,522	1,155	720	1,677	223	9,677	67	2	1
Printing and publishing.....	1914	10,571	7,550	1,358	1,283	155	212	11	1	1
	1909	10,790	6,457	974	1,883	856	614	5	1	
Slaughtering and meat packing.....	1914	5,200	629	84	805	1,834	1,746		102	
	1909	4,674	4		1,960	59	2,650		1	
Tobacco manufactures.....	1914	3,997	985	130	2,854	4	9	15		
	1909	4,453	1,158	118	81	2,632	464			
All other industries.....	1914	45,505	5,108	5,030	14,122	6,143	12,011	1,655	241	1,255
	1909	43,063	3,517	2,956	10,065	8,981	14,193	906	577	1,808
Total for cities <sup>1</sup> .....	1914	119,027	25,218	17,392	40,444	14,380	18,176	2,676	262	470
CAPE GIRARDEAU.....	1914	1,259	48	4	194	645	327	32		9
COLUMBIA.....	1914	479	106		316	28	14	15		
HANNIBAL.....	1914	2,366	124	4	811	1,040	333	48		6
JEFFERSON CITY.....	1914	1,401	203	264	5	794	106	13	14	2
JOPLIN.....	1914	1,156	231	21	285	432	131	40		16
KANSAS CITY.....	1914	10,252	4,197	2,212	4,694	1,643	2,098	1,193	23	192
MOBERLY.....	1914	1,411	997	4	346		40	13	11	
ST. CHARLES.....	1914	1,683	24		19	1,596	28	8	8	
ST. JOSEPH.....	1914	4,914	1,609	879	1,371	394	519	16	27	99
ST. LOUIS.....	1914	85,058	17,337	13,896	30,559	7,735	14,039	1,197	165	130
SEDALIA.....	1914	903	174		546	9	157	2		15
SPRINGFIELD.....	1914	2,009	160	108	1,212	64	362	99		4
WEBB CITY.....	1914	136	8		86		22		14	6

<sup>1</sup> Statistics for Independence can not be shown without disclosing individual operations.

In 8 of the 13 cities shown, the majority of the wage earners are employed in establishments operating 54 hours or less per week. In 1914 St. Louis, Kansas City, and St. Joseph reported 72.6 per cent, 68.3 per cent, and 78.5 per cent, respectively, of the wage earners employed in establishments operating 54 hours or less per week. For these cities the proportions of wage earners in establishments operating more than

60 hours were 1.8 per cent, 8.7 per cent, and 2.9 per cent, respectively.

**Location of establishments.**—Table 12 shows, for 1914, 1909, and 1899, the extent to which the manufactures in Missouri were centralized in the cities having more than 10,000 inhabitants.

Thirteen cities in Missouri, in 1914, having an estimated population of 10,000 or more, contained 38 per

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cent of the total estimated population for the state, 55.2 per cent of the total number of establishments, 78.2 per cent of the total average number of wage earners, 75.5 per cent of the total value of products, and 83.8 per cent of the value added by manufacture.

In accepting the statistics in this table, it must be remembered that Cape Girardeau, Columbia, and St.

Charles, which had a population of 10,000 and over at the census of 1914, were included in those for the outside districts at prior censuses; also that Jefferson City, Moberly, and Webb City, which had a population of 10,000 and over at the census of 1909, were included in the statistics for the outside districts in 1900.

Table 12

Table 12	Census year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 OR OVER.								DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 OR OVER. <sup>1</sup>	
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.			
			Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.	Number or amount.	Per cent of aggregate.
Number of places.....	1914 1910 1900	----- ----- -----	13 10 7	----- ----- -----	8 5 3	----- ----- -----	3 3 1	----- ----- -----	2 2 3	----- ----- -----	----- ----- -----	----- ----- -----
Population <sup>2</sup> .....	1914 1910 1900	3,372,886 3,293,335 3,106,665	1,280,715 1,150,840 919,270	38.0 34.9 29.6	109,892 70,753 51,278	3.3 2.1 1.6	154,245 144,677 26,023	4.6 4.4 0.8	1,016,578 935,410 841,969	30.1 28.4 27.1	2,092,171 2,142,495 2,187,395	62.0 65.1 70.4
Number of establishments.....	1914 1909 1899	8,386 8,375 6,853	4,633 4,247 3,662	55.2 50.7 53.4	318 232 202	3.8 2.8 2.9	476 446 45	5.7 5.3 0.6	3,839 3,569 3,415	45.8 42.6 49.8	3,753 4,128 3,191	44.8 49.3 46.6
Average number of wage earners..	1914 1909 1899	152,182 152,993 107,704	119,027 115,665 84,165	78.2 75.5 78.1	9,638 5,200 3,857	6.3 3.4 3.6	8,079 8,351 682	5.3 5.5 0.6	101,310 102,014 79,626	66.6 66.7 73.9	33,155 37,428 23,539	21.8 24.5 21.9
Value of products.....	1914 1909 1899	\$637,952,128 574,111,070 316,304,095	\$481,861,939 427,078,288 238,424,508	75.5 74.4 75.4	\$31,217,914 16,734,760 7,415,910	4.9 2.9 2.3	\$29,210,746 27,143,705 2,325,218	4.6 4.7 0.7	\$421,433,279 383,190,823 228,683,380	66.1 66.7 72.3	\$156,090,189 147,032,782 77,870,587	24.5 25.6 24.6
Value added by manufacture.....	1914 1909 1899	249,237,269 219,699,919 132,115,065	208,835,584 180,678,818 111,156,471	83.8 82.2 84.1	12,471,948 5,945,511 3,015,240	5.0 2.7 2.3	10,717,276 10,684,506 769,037	4.3 4.9 0.6	185,646,360 164,048,801 107,372,194	74.5 74.7 81.3	40,401,685 39,021,101 20,958,594	16.2 17.8 15.9

<sup>1</sup> Includes Independence, to avoid disclosure of individual operations.

<sup>2</sup> Census estimate of population for 1914.

The value of products of the urban districts increased 102.1 per cent during the 15 years shown in the table; while the rural districts increased 100.4 per cent. Notwithstanding the increase in the number of places included in the urban districts, no marked changes occurred in the proportion contributed by these urban districts to the totals for the several items shown.

The relative importance in manufactures of each of 13 cities having more than 10,000 inhabitants, as measured by average number of wage earners and by value of products in 1914, 1909, and 1904 is shown in Table 13. The cities are listed in the order of their rank, as measured by value of products in 1914. Those for which comparative figures are not shown for 1909 and 1904 had less than 10,000 inhabitants in those years.

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1914	1909	1904	1914	1909	1904
St. Louis.....	85,058	87,371	82,698	\$360,479,868	\$328,495,313	\$267,307,038
Kansas City.....	16,252	14,643	11,039	60,953,411	54,704,510	35,573,049
St. Joseph.....	4,914	5,390	4,663	17,067,642	17,625,682	11,573,720
Jefferson City.....	1,401	1,651		8,086,920	5,445,518	
Hannibal.....	2,366	2,445	1,811	6,214,645	6,195,129	3,563,842
Springfield.....	2,009	2,131	2,158	6,192,954	5,382,098	5,293,315
Joplin.....	1,156	830	680	5,950,150	4,135,925	3,006,203
St. Charles.....	1,683			4,993,624		
Cape Girardeau.....	1,259			3,888,376		
Moberly.....	1,411	999		3,136,734	1,983,971	
Sedalia.....	903	935	974	2,921,686	2,333,072	1,691,727
Columbia.....	479			1,269,702		
Webb City.....	136	170		706,227	777,070	

<sup>1</sup> Figures do not agree with those published in 1909, as convicts employed in the penitentiary were included at that census, but have been excluded in order to make the totals comparable with those for 1904 and 1914.

Each of the cities, for which comparable figures are given, except St. Joseph and Webb City, show increases in value of products for the period 1909-1914. The highest per cent of increase, 58.1, is shown for Moberly.

St. Louis, the most important city of the state, ranks fifth in value of manufactured products among the cities of the United States. In 1914 its manufacturing industries gave employment to 55.9 per cent of the total average number of wage earners, and the value of its products formed 56.5 per cent of the total value of manufactured products for the state. The leading industries are slaughtering and meat packing, printing and publishing, the manufacture of malt liquors, steam-railroad cars, boots and shoes, tobacco, and foundry and machine-shop products.

Kansas City, the second city in the state, increased 11.4 per cent in value of products and 11 per cent in number of wage earners employed for the period 1909-1914. The principal industries are printing and publishing, the manufacture of flour-mill and grist-mill products, foundry and machine-shop products, bakery products, and bags, other than paper.

St. Joseph, the third city in importance, shows 3.2 per cent of the total number of wage earners reported by the state and 2.7 per cent of the total value of products. The chief industries are slaughtering and meat packing, printing and publishing, confectionery, flour-mill and gristmill products, butter, men's clothing, boots and shoes, and saddlery and harness.

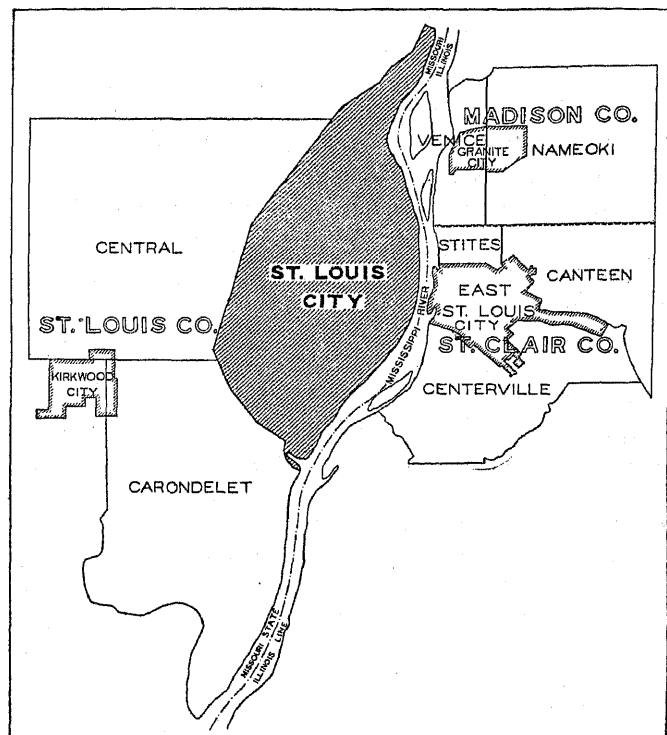
Jefferson City shows an increase of \$2,641,402, or 48.5 per cent, in value of products for the five-year period 1909-1914. The principal industries are manufacturing boots and shoes and men's clothing.

The manufacture of boots and shoes was the leading industry in Cape Girardeau, Columbia, Hannibal, Moberly, and St. Charles, while the flour-mill and grist-mill industry was important in Hannibal, Joplin, Springfield, and Webb City. The leading industry in Joplin was smelting and refining, lead; in St. Charles, the manufacture of steam-railroad cars, by other than railroad companies; and in Sedalia, the killing and dressing of poultry. The construction and repairs of cars by steam-railroad companies is an important industry in Hannibal, Moberly, Sedalia, and Springfield.

**St. Louis metropolitan district.**—The St. Louis metropolitan district, which was the seventh in importance in the United States in manufacturing industries in 1914, embraces 197,817 acres of territory, of which 39,100 acres constitute the area of St. Louis and 158,717 acres, the area of the outside district. The estimated population of the district, on July 1, 1914, was 905,024; that of St. Louis was 734,667; East St. Louis, 69,502; and Granite City, 13,647; for the remainder of the district it was 87,208.

The metropolitan district includes, in addition to the city of St. Louis, Carondelet and Central Townships and Kirkwood City in Bonhomme Township in St. Louis County, Mo.; East St. Louis City, and Canteen, Centerville, and Stites Townships in St. Clair County, and Granite City, and Nameoki and Venice Townships in Madison County, Ill.

The following is an outline map of the metropolitan district in 1914:



*Summary for the district.*—Table 14 summarizes for 1914 the statistics of manufacturing industries and gives the estimated population in 1914 for each of the three cities and for the remainder of the district, with the percentage St. Louis forms of the total for the district.

Table 14

Table 14	ST. LOUIS METROPOLITAN DISTRICT.						Per cent St. Louis is of total for district.
	The district.	St. Louis.	District exclusive of St. Louis.				
			Total.	East St. Louis.	Granite City.	Remainder.	
Population <sup>1</sup> .....	905,024	734,667	170,357	69,502	13,647	87,208	81.2
Number of establishments.....	3,090	2,787	303	125	39	139	90.2
Persons engaged.....	129,329	104,187	25,142	6,796	5,698	12,648	80.6
Proprietors and firm members.....	2,110	1,900	210	70	48	92	90.0
Salaried employees.....	20,431	17,229	3,202	863	560	1,779	84.3
Wage earners (average number).....	106,788	85,058	21,730	5,863	5,090	10,777	79.7
Primary horsepower.....	240,718	169,982	70,736	18,183	17,556	34,997	70.6
Capital.....	\$399,841,035	\$314,728,289	\$85,112,746	\$28,321,596	\$18,866,840	\$37,924,310	78.7
Salaries and wages.....	94,810,044	75,123,125	19,686,919	5,603,197	4,879,512	9,204,210	79.2
Salaries.....	28,322,154	23,973,344	4,348,810	1,233,998	872,377	2,242,435	84.6
Wages.....	66,487,890	51,149,781	15,338,109	4,369,199	4,007,135	6,961,775	76.9
Paid for contract work.....	1,258,505	1,111,623	146,882	46,700	-----	100,182	88.3
Rent and taxes (including internal revenue).....	15,037,465	14,378,361	659,104	354,140	161,887	143,077	95.6
Cost of materials.....	299,003,228	203,806,296	95,196,932	17,423,426	9,845,272	67,928,234	68.2
Value of products.....	493,219,710	360,479,868	132,739,842	26,904,565	17,903,162	87,932,115	73.1
Value added by manufacture.....	194,216,482	156,673,572	37,542,910	9,481,139	8,057,890	20,003,881	80.7

<sup>1</sup> Estimated population July 1, 1914.

In 1914 the St. Louis metropolitan district had 3,090 manufacturing establishments which gave employment to 129,329 persons during the year and paid \$94,810,044 in salaries and wages. Of the persons employed, 106,788 were wage earners. The establishments manufactured products to the value of \$493,219,710, to produce which materials costing \$299,003,228 were utilized. The value added by manufacture was thus \$194,216,482.

In this district the greater part of the value of manufactured products was reported by factories in the central city. St. Louis contained over four-fifths of the population of the district of which it is the manufacturing, commercial, and financial center. Its manufacturing establishments constituted over nine-tenths of all in the district and gave employment to nearly four-fifths of the average number of wage earners and contributed nearly three-fourths of the value of the

manufactured products for the district. The principal industries of East St. Louis in 1914 were the manufacture of flour-mill and gristmill products and chemicals, and slaughtering and meat packing. For Granite City, the manufacture of babbitt metal and solder, glucose and starch, iron and steel works and rolling-mill products, and stamped and enameled ware, are the more important industries.

*Comparison with earlier censuses.*—Table 15 gives the statistics for the St. Louis metropolitan district as a whole for 1914 and 1909, with percentages of increase for the five-year period.

The table shows an increase for the five-year period in every item shown. The population increased practically 10 per cent and the number of establishments 4.7 per cent, while the value of products increased 14.7 per cent. Large increases were shown for number of salaried employees and their salaries, these being 14.3 per cent and 25.2 per cent, respectively. Though the number of wage earners increased but little, the wages increased 11.7 per cent.

Table 15

	ST. LOUIS METROPOLITAN DISTRICT.		
	Number or amount.		Per cent of increase, 1909-1914.
	1914	1909	
Population.....	<sup>1</sup> 905,024	828,733	<sup>2</sup> 9.2
Number of establishments.....	3,090	2,951	4.7
Persons engaged.....	129,329	126,453	2.3
Proprietors and firm members.....	2,110	2,045	3.2
Salaried employees.....	20,431	17,873	14.3
Wage earners (average number).....	106,788	106,535	0.2
Primary horsepower.....	240,718	213,405	12.8
Capital.....	\$399,841,035	\$356,356,256	12.2
Salaries and wages.....	94,810,044	82,157,263	15.4
Salaries.....	28,322,154	22,612,726	25.2
Wages.....	66,487,890	59,544,537	11.7
Paid for contract work.....	1,258,505		
Rent and taxes (including internal revenue).....	15,037,465		
Cost of materials.....	290,003,228	266,552,373	12.2
Value of products.....	493,219,710	430,170,244	14.7
Value added by manufacture.....	194,216,482	163,617,871	18.7

<sup>1</sup> Estimated population July 1, 1914.<sup>2</sup> Apr. 15, 1910.

*Comparative summary, by industries.*—Statistics for such of the industries in the district that can be shown separately and have products valued at \$1,600,000 or more in 1914, are given in Table 16, for 1914 and 1909.

Table 16

ST. LOUIS METROPOLITAN DISTRICT: 1914 AND 1909.

INDUSTRY.	Census year.	Number of establishments.	Persons engaged in industry.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number.)							
All industries.....	1914	3,090	129,329	2,110	20,431	106,788	240,718	\$399,841,035	\$28,322,154	\$66,487,890	\$290,003,228	\$493,219,710	\$194,216,482
	1909	2,951	126,453	2,045	17,873	106,535	213,405	356,356,256	22,612,726	59,544,537	266,552,373	430,170,244	163,617,871
Automobiles, including bodies and parts.....	1914	<sup>1</sup> 16	542	5	103	434	550	1,688,003	175,190	327,286	1,029,641	1,881,578	851,947
	1909	11	340	2	56	282	139	620,371	61,895	197,452	726,708	1,302,283	576,485
Boots and shoes, including cut stock and findings.....	1914	27	10,260	4	1,527	8,729	5,602	22,886,292	2,073,130	4,453,136	22,630,162	31,048,945	8,418,783
	1909	33	13,006	3	865	12,138	7,547	10,562,837	990,893	6,169,631	23,735,168	33,970,372	10,235,204
Brass and bronze products.....	1914	11	423	6	68	349	445	1,639,448	130,453	236,061	2,390,021	2,936,923	537,062
	1909	11	325	6	50	269	385	963,035	76,162	179,661	1,031,835	2,104,768	532,933
Bread and other bakery products.....	1914	513	3,706	527	569	2,610	2,280	7,228,432	603,002	1,518,861	5,213,956	9,998,330	4,784,383
	1909	484	3,476	475	508	2,353	1,458	7,240,585	585,435	1,287,883	4,992,567	9,047,142	4,051,575
Brick, tile, pottery, and other clay products.....	1914	30	3,967	6	305	3,658	8,442	12,906,147	483,727	2,066,174	1,439,101	4,733,826	3,394,725
	1909	30	4,693	6	301	4,388	8,882	14,522,242	462,805	2,215,674	1,469,989	5,608,855	4,147,806
Carriages and wagons and materials.....	1914	92	2,007	81	230	1,696	2,068	4,226,308	334,718	1,145,462	3,129,166	5,155,675	2,026,500
	1909	85	2,608	63	256	2,289	3,173	5,209,760	362,377	1,201,795	3,867,741	6,401,405	2,533,664
Chemicals.....	1914	<sup>1</sup> 15	1,130	5	341	784	1,389	5,581,501	514,105	458,546	3,959,921	6,471,061	2,511,140
	1909	<sup>1</sup> 7	774	.....	172	602	865	3,872,062	322,111	322,450	2,196,698	3,535,410	1,338,712
Clothing, men's, including shirts....	1914	54	5,665	33	541	5,091	1,770	5,300,692	711,906	2,184,231	5,861,020	10,272,765	4,411,745
	1909	50	5,246	32	463	4,751	879	5,419,636	581,726	1,969,168	5,382,012	9,687,421	4,365,409
Clothing, women's.....	1914	<sup>1</sup> 66	2,593	47	275	2,271	581	2,004,996	371,884	1,062,309	2,947,322	5,353,268	2,405,946
	1909	<sup>1</sup> 58	2,745	49	257	2,439	438	2,050,468	301,456	1,021,016	2,901,808	4,886,052	1,984,244
Coffee and spice, roasting and grinding.....	1914	20	1,093	5	589	499	1,808	5,123,203	840,767	273,729	9,163,185	11,971,901	2,808,716
	1909	23	1,091	6	515	570	1,886	4,547,171	697,362	268,406	7,217,065	9,513,595	2,290,530
Confectionery.....	1914	<sup>1</sup> 48	1,726	45	209	1,472	1,320	2,440,544	339,773	520,252	2,146,740	3,580,785	1,443,045
	1909	25	1,453	14	217	1,222	823	1,747,211	349,724	512,420	2,174,939	3,845,422	1,673,483
Copper, tin, and sheet-iron products.....	1914	115	3,033	106	308	2,619	2,759	7,190,479	497,699	1,502,705	4,466,931	8,265,351	3,798,420
	1909	126	3,632	113	355	3,164	2,081	6,632,822	428,466	1,580,170	4,851,264	8,018,879	3,167,615
Electrical machinery, apparatus, and supplies.....	1914	<sup>1</sup> 12	1,728	5	303	1,420	1,400	3,418,417	409,800	827,542	1,228,572	3,275,247	2,040,675
	1909	<sup>1</sup> 16	912	7	206	699	650	1,523,842	265,414	380,114	636,129	2,080,635	1,444,506
Fertilizers.....	1914	7	314	.....	55	259	1,842	1,318,160	63,332	132,283	1,035,586	1,604,136	568,550
	1909	4	186	.....	50	136	780	912,025	68,375	62,153	384,450	638,439	253,989
Flour-mill and gristmill products....	1914	12	423	1	132	290	3,725	3,520,745	235,858	196,253	7,504,444	8,775,455	1,271,011
	1909	16	355	4	105	246	4,082	2,252,576	152,634	144,915	5,863,913	6,578,904	724,991
Food preparations, not elsewhere specified.....	1914	26	699	13	248	438	1,843	1,642,107	326,031	194,282	5,110,590	6,206,018	1,096,628
	1909	<sup>1</sup> 21	559	18	159	382	946	2,377,416	206,776	169,722	3,498,913	4,454,774	955,801
Foundry and machine-shop products.....	1914	185	8,558	80	1,373	7,105	15,335	21,917,057	1,948,485	4,855,694	8,994,240	18,450,717	9,456,477
	1909	176	7,800	83	1,107	6,610	11,009	17,581,220	1,415,475	4,239,599	8,125,592	17,338,198	9,212,006

<sup>1</sup> Excludes statistics for establishments located outside of the corporate limits of St. Louis, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "all other industries."

Table 16—Continued.

ST. LOUIS METROPOLITAN DISTRICT: 1914 AND 1909—continued.

INDUSTRY.	Cen- sus year.	Num- ber of estab- lish- ments.	Persons engaged in industry.				Pri- mary horse- power.	Capital.	Salaries.	Wages.	Cost of material.	Value of products.	Value added by manufac- ture.
			Total.	Pro- pri- etors and firm mem- bers.	Sal- aried em- ploy- ees.	Wage earners (aver- age num- ber).							
Furniture and refrigerators.....	1914 1909	1 62 1 65	3, 224 3, 310	19 22	433 406	2, 772 2, 882	5, 030 5, 163	\$5, 551, 129 5, 689, 684	\$583, 608 504, 488	\$1, 666, 364 1, 620, 135	\$2, 703, 287 2, 735, 029	\$6, 019, 679 6, 110, 965	\$3, 316, 392 3, 375, 936
Iron and steel, steel works and rolling mills.	1914 1909	7 9	5, 994 6, 293	..... .....	491 579	5, 503 5, 714	19, 707 21, 004	20, 372, 214 19, 921, 785	884, 399 591, 813	4, 617, 395 3, 444, 688	6, 152, 193 6, 264, 040	13, 774, 438 12, 037, 791	7, 622, 245 5, 773, 751
Leather goods.....	1914 1909	42 1 32	1, 136 1, 204	25 21	260 223	851 960	528 693	2, 215, 135 2, 292, 601	312, 868 271, 519	539, 659 514, 931	1, 542, 384 1, 629, 336	3, 197, 472 3, 108, 131	1, 655, 088 1, 478, 795
Liquors, malt.....	1914 1909	15 14	5, 757 5, 598	..... .....	582 589	5, 175 5, 009	26, 876 26, 102	59, 553, 140 47, 252, 731	1, 349, 436 1, 128, 556	4, 334, 784 2, 484, 681	5, 935, 352 6, 691, 627	28, 220, 374 24, 191, 737	22, 285, 022 17, 500, 110
Lumber and timber products.....	1914 1909	88 86	2, 910 3, 574	31 36	341 420	2, 538 3, 118	11, 436 10, 077	5, 994, 180 7, 121, 163	491, 331 496, 848	1, 492, 681 1, 852, 297	3, 145, 111 4, 432, 065	6, 050, 592 8, 197, 133	2, 905, 481 3, 765, 068
Paint and varnish.....	1914 1909	1 26 1 23	812 869	3 1	204 270	515 598	2, 363 2, 139	4, 792, 101 4, 661, 187	428, 174 398, 199	337, 308 315, 048	3, 216, 971 3, 738, 225	5, 002, 918 5, 564, 021	1, 785, 947 1, 825, 796
Patent medicines and compounds and druggists' preparations.	1914 1909	131 1 99	1, 601 1, 626	74 87	699 677	918 862	686 800	5, 000, 517 4, 506, 796	1, 045, 980 879, 642	432, 761 364, 259	2, 498, 266 2, 280, 680	7, 821, 239 6, 846, 361	5, 322, 978 4, 565, 711
Printing and publishing.....	1914 1909	399 375	8, 431 8, 685	308 246	2, 554 2, 258	5, 569 6, 181	6, 866 5, 844	12, 999, 862 13, 138, 946	3, 275, 771 2, 859, 936	4, 161, 296 4, 051, 105	5, 259, 536 5, 258, 278	18, 520, 685 17, 785, 074	13, 269, 732 12, 526, 796
Slaughtering and meat packing.....	1914 1909	29 28	7, 372 6, 354	17 19	1, 024 976	6, 331 5, 359	13, 472 13, 148	21, 065, 173 18, 107, 879	1, 210, 891 1, 057, 528	3, 882, 978 3, 065, 827	90, 830, 907 74, 920, 220	104, 168, 190 81, 903, 483	13, 337, 283 6, 983, 263
Soap.....	1914 1909	9 9	796 837	6 2	269 281	521 554	1, 358 954	3, 086, 373 2, 657, 965	267, 069 232, 537	279, 289 271, 640	2, 810, 820 3, 054, 197	4, 919, 685 4, 718, 552	1, 269, 865 1, 664, 355
Stoves and furnaces, including gas and oil stoves.	1914 1909	11 13	2, 373 2, 048	..... 2	457 373	1, 916 1, 673	3, 029 1, 826	9, 019, 131 7, 254, 137	720, 759 535, 244	1, 335, 670 1, 198, 582	2, 718, 873 2, 457, 524	7, 478, 760 5, 923, 388	4, 759, 887 3, 465, 864
Wirework, including wire rope and cable.	1914 1909	1 10 1 9	863 832	6 6	145 143	712 683	1, 521 853	3, 298, 609 2, 241, 838	343, 654 247, 129	350, 745 364, 932	1, 179, 945 1, 697, 227	2, 094, 732 3, 323, 043	2, 084, 787 1, 625, 816
All other industries.....	1914 1909	1, 012 1, 013	40, 103 36, 022	652 722	5, 706 4, 896	33, 745 30, 404	94, 657 78, 329	136, 860, 880 133, 474, 265	7, 258, 264 6, 080, 201	21, 101, 254 18, 017, 183	82, 849, 985 71, 756, 044	144, 780, 773 121, 384, 981	61, 930, 788 49, 628, 937

<sup>1</sup> Excludes statistics for establishments located outside of the corporate limits of St. Louis, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "all other industries."

Fourteen of the industries, for which statistics are shown in the table, comprise establishments inside the corporate limits of St. Louis. Eight of these industries, however, operated to some extent outside of the city proper, but the reports for such establishments have been included with "all other industries," in order to avoid disclosure of individual operations.

The manufacture of brass and bronze products, boots and shoes, men's clothing, soap, stoves and furnaces, and the roasting and grinding of coffee and spice, were confined to establishments located within the corporate limits of the city.

Totals for all industries combined show an increase in every item for the five-year period, 1909-1914. Considerable increases are shown for the value of products in a majority of the industries. Slaughtering and meat packing, the most important industry as measured by value of products, shows the greatest actual increase, \$22,264,707, or 27.2 per cent; while the greatest relative increase is shown for fertilizers, 151.3 per cent. The increases in the manufacture of chemicals, and electrical machinery and apparatus and supplies, were in each case more than 50 per cent.

Several prominent industries are not shown in this table, in order to avoid disclosure of individual operations; among them are those manufacturing bags, other than paper; electric and steam railroad cars; cement; gas; glucose and starch; cottonseed oil and cake; and tobacco.

**Character of ownership.**—Table 17 presents statistics in respect to character of ownership, or legal organization, of manufacturing enterprises. For all industries combined, comparative figures are given for 1914, 1909, and 1904; for the selected industries, statistics for 1914 and 1909 are shown; and for individual cities the figures are for all industries combined and relate only to 1914. In order to avoid disclosing the operations of individual establishments, it is necessary to omit several important industries and the city of Independence from this table.

This table shows for all industries that, while the establishments under the corporate form of ownership were less than 30 per cent of the total number of establishments, they employed more than five-sixths of the wage earners and reported more than nine-tenths of the total value of products in 1914. In 1909 the percentages were 29.2 per cent, 85.3 per cent, and 88.6 per cent, respectively.

The form of ownership prevailing in the individual industries shows much variation. The boot and shoe factories and the breweries were owned almost exclusively by corporations, and 60 per cent or more of the men's clothing, furniture-manufacturing, and slaughtering and meat-packing establishments were under this form of ownership. A majority of the establishments engaged in printing and publishing and the manufacture of bakery and lumber and timber products were operated by individuals, though in each



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case the average number of wage earners and value of products for those operated by corporations formed more than 60 per cent of the total for the industry. This predominates in the bakery industry, where 874, or 83.8 per cent, out of a total of 1,043 establishments

in 1914, were owned by individuals, but they gave employment to only 26.8 per cent of the total number of wage earners and their products formed only 28.9 per cent of the total value of products for the industry.

Table 17

INDUSTRY AND CITY.		Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
						Total.			In establishments owned by—			Per cent of total.			Total.			Of establishments owned by—			Per cent of total.		
			Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All others.						
All industries.....	1914	4,346	2,501	1,539	152,182	12,832	133,110	6,240	8.4	87.5	4.1	\$637,952,128	\$40,542,260	\$574,836,664	\$22,573,204	6.4	90.1	3.5					
	1909	4,335	2,447	1,593	152,993	13,755	130,514	8,724	9.0	85.3	5.7	574,111,070	38,121,568	508,761,173	27,228,320	6.6	88.6	4.7					
	1904	3,316	1,847	1,301	133,167	13,776	109,821	9,570	10.3	82.5	7.2	439,548,957	33,642,863	379,405,293	26,500,801	7.7	86.3	6.0					
Boots and shoes, including cut stock and findings.	1914	4	50	.....	14,740	19	14,721	.....	0.1	99.9	.....	52,522,006	82,741	52,439,265	.....	0.2	99.8	.....					
	1909	5	51	3	17,396	34	17,091	271	0.2	98.2	1.6	48,751,235	75,418	48,028,905	646,912	0.2	98.5	1.3					
Bread and other bakery products.	1914	874	39	130	5,269	1,414	3,506	349	26.8	66.5	6.6	19,940,499	5,771,880	12,766,532	1,402,087	28.9	64.0	7.0					
	1909	820	47	87	4,743	1,193	3,382	168	25.2	71.3	3.5	18,523,826	5,159,331	12,702,722	661,773	27.9	68.6	3.6					
Carriages and wagons and materials.	1914	120	50	53	2,560	383	2,029	148	15.0	79.3	5.8	6,850,955	779,822	5,678,839	392,294	11.4	82.9	5.7					
	1909	109	64	70	3,302	417	2,517	368	12.6	76.2	11.1	8,468,856	721,434	0,979,880	767,542	8.5	82.4	9.1					
Clothing, men's, includ- ing shirts.	1914	19	59	12	8,140	200	7,716	224	2.5	94.8	2.8	17,300,109	329,122	16,432,812	538,175	1.9	95.0	3.1					
	1909	21	50	13	7,994	276	7,583	135	3.4	94.9	1.7	15,407,193	406,541	14,595,652	405,000	2.6	94.7	2.6					
Flour-mill and gristmill products.	1914	284	152	205	2,096	393	1,345	358	18.7	64.2	17.1	38,686,309	4,328,928	27,838,468	6,518,913	11.2	72.0	16.8					
	1909	309	159	212	2,198	414	1,384	400	18.8	63.0	18.2	44,508,106	5,157,588	32,612,754	6,837,764	11.6	73.0	15.4					
Foundry and machine- shop products.	1914	106	195	55	8,449	440	7,765	244	5.2	91.9	2.9	22,270,635	1,090,004	20,460,093	720,538	4.9	91.9	3.2					
	1909	110	181	38	7,443	494	6,485	464	6.6	87.1	6.2	19,975,149	1,292,878	17,750,947	931,324	6.5	88.9	4.7					
Furniture and refrigera- tors.	1914	31	61	8	3,344	236	3,063	47	7.1	91.5	1.4	7,608,343	511,876	6,995,093	101,374	6.7	91.9	1.3					
	1909	31	59	9	3,427	294	2,979	154	8.6	86.9	4.5	7,380,091	610,278	6,472,122	297,691	8.3	87.7	4.0					
Liquors, malt.....	1914	4	27	1	5,947	123	5,924	.....	0.4	99.6	.....	31,801,404	112,627	31,675,777	.....	0.4	99.6	.....					
	1909	4	25	2	5,646	122	5,624	.....	0.4	99.6	.....	27,446,504	112,707	27,333,797	.....	0.4	99.6	.....					
Lumber and timber prod- ucts.	1914	570	157	229	9,196	1,680	6,435	1,081	18.3	70.0	11.7	18,396,838	2,640,206	13,915,173	1,841,459	14.4	75.6	10.0					
	1909	633	179	286	13,522	3,268	8,358	1,896	24.2	61.8	14.0	23,260,926	4,094,764	16,918,882	2,247,280	17.6	72.7	9.7					
Printing and publishing..	1914	805	313	235	10,571	2,148	7,706	717	20.3	72.9	6.8	33,173,414	6,378,265	25,079,967	1,715,182	10.2	75.0	5.2					
	1909	772	303	247	10,790	2,154	7,809	827	20.0	72.4	7.6	29,651,153	5,794,603	22,013,459	1,843,091	19.5	74.2	0.2					
Slaughtering and meat packing.	1914	10	24	6	5,200	28	5,139	33	0.5	98.8	0.6	92,060,499	392,938	91,192,177	475,384	0.4	99.1	0.5					
	1909	15	22	8	4,674	35	4,604	35	0.7	98.5	0.7	79,581,294	548,268	78,222,015	811,011	0.7	98.3	1.0					
Total for cities <sup>2</sup> .....	1914	2,151	1,879	603	119,027	8,145	107,254	3,628	6.8	90.1	3.1	481,861,939	28,181,665	440,596,973	13,083,301	5.8	91.4	2.7					
CAPE GIRARDEAU.....	1914	16	20	6	1,259	47	1,179	33	3.7	93.6	2.6	3,888,376	159,058	3,638,312	91,006	4.1	93.0	2.3					
COLUMBIA.....	1914	10	8	4	479	29	413	37	6.1	86.2	7.7	1,269,702	70,056	1,156,023	43,023	5.5	91.0	3.4					
HANNIBAL.....	1914	23	27	16	2,366	62	2,232	72	2.6	94.3	3.0	6,214,645	172,360	5,434,799	607,486	2.8	87.5	9.8					
JEFFERSON CITY.....	1914	14	21	15	1,401	64	1,300	37	4.6	92.8	2.6	8,086,920	127,552	7,790,076	169,202	1.6	96.3	2.1					
JOPLIN.....	1914	49	30	21	1,156	148	889	119	12.8	76.9	10.3	5,950,150	375,546	5,056,708	169,202	6.3	85.0	8.7					
KANSAS CITY.....	1914	508	369	175	16,252	2,489	12,776	987	15.3	78.6	6.1	60,953,411	9,767,165	46,421,112	4,765,134	16.0	76.2	7.8					
MOBERLY.....	1914	15	12	3	1,411	37	1,362	12	2.6	96.5	0.9	3,136,734	133,724	2,970,643	32,307	4.3	94.7	1.0					
ST. CHARLES.....	1914	7	9	3	1,683	23	1,654	6	1.4	98.3	0.4	4,993,624	54,945	4,919,808	18,871	1.1	98.5	0.4					
ST. JOSEPH.....	1914	131	100	36	4,914	334	4,369	211	6.8	88.9	4.3	17,067,642	1,197,631	15,229,836	640,175	7.0	80.2	3.8					
ST. LOUIS.....	1914	1,288	1,215	284	85,058	4,618	78,465	1,975	5.4	92.2	2.3	360,479,868	15,221,438	339,678,539	5,579,891	4.2	94.2	1.6					
SEDALIA.....	1914	39	19	11	903	106	757	40	11.7	83.8	4.4	2,921,686	355,035	2,434,867	131,784	12.2	83.3	4.5					
SPRINGFIELD.....	1914	43	42	24	2,009	154	1,766	89	7.7	87.9	4.4	6,192,954	478,307	5,263,353	451,204	7.7	85.0	7.3					
WEBB CITY.....	1914	8	7	5	136	34	92	10	25.0	67.6	7.4	706,227	68,848	602,897	34,482	9.7	85.4	4.9					

<sup>1</sup> Includes the group "all others."

<sup>2</sup> Statistics for Independence can not be shown without disclosing individual operations.

For the cities as a whole, 40.6 per cent of the establishments were under the corporate form of ownership, and they gave employment to 90.1 per cent of the wage earners and their products formed 91.4 per cent of the totals for all establishments in these cities.

**Size of establishments.**—The tendency for manufacturing to become concentrated in large establishments or the reverse is indicated by the statistics given in Table 18.

It will be seen from this table that in 1914 only 104, or 1.2 per cent, of the 8,386 establishments in the state turned out products valued at more than \$1,000,000. These establishments, however, employed

an average of 53,486 wage earners, or 35.1 per cent of the total, and reported 51.7 per cent of the total value of products and 43.7 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having products valued at less than \$5,000—although constituting 43.1 per cent of the total number of establishments, reported only 1.3 per cent of the total value of products. More than five-sixths of the value of products and three-fourths of the wage earners and value added by manufacture were reported by establishments having products valued at \$100,000 or more.

The table shows that during the five years from 1909 to 1914, there was a considerable increase, as measured by both value of products and value added by manufacture, in the relative importance of the largest establishments—those reporting products val-

ued at not less than \$1,000,000—and a decrease in that of each of the other classes. A similar change took place between 1904 and 1909, with slight exceptions which occur in those groups having products valued at less than \$20,000.

Table 18 VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904	1914	1909	1904
All classes.....	8,386	8,375	6,464	152,182	152,993	133,167	\$637,952,128	\$574,111,070	\$439,548,957	\$249,237,269	\$219,699,919	\$187,290,540
Less than \$5,000.....	3,611	3,649	2,524	3,911	5,107	3,542	8,426,604	8,272,292	6,055,336	5,352,401	5,293,990	4,077,458
\$5,000 to \$20,000.....	2,512	2,505	1,983	10,152	10,999	10,060	25,006,975	25,001,039	20,344,366	14,351,718	14,249,566	11,879,553
\$20,000 to \$100,000.....	1,449	1,444	1,304	23,127	23,948	23,756	65,177,199	65,057,234	56,375,635	33,028,026	32,157,387	29,100,054
\$100,000 to \$1,000,000.....	710	683	585	61,506	64,791	60,886	209,474,054	204,184,575	167,436,866	87,704,685	84,656,927	76,028,084
\$1,000,000 and over.....	104	94	68	53,486	48,148	34,923	329,867,296	271,595,930	189,336,754	108,800,379	83,342,049	66,205,391
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	43.1	43.6	39.0	2.6	3.3	2.7	1.3	1.4	1.4	2.1	2.4	2.2
\$5,000 to \$20,000.....	30.0	29.9	30.7	6.7	7.2	7.6	3.9	4.4	4.6	5.8	6.5	6.3
\$20,000 to \$100,000.....	17.3	17.2	20.2	15.2	15.7	17.8	10.2	11.3	12.8	13.3	14.6	15.5
\$100,000 to \$1,000,000.....	8.5	8.2	9.0	40.4	42.3	45.7	32.8	35.6	38.1	35.2	38.5	40.6
\$1,000,000 and over.....	1.2	1.1	1.1	35.1	31.5	26.2	51.7	47.3	43.1	43.7	37.9	35.3

Table 19 gives, for 1914 and 1909, for 11 of the more important industries, a classification of establishments, wage earners, value of products, and value added by

manufacture similar to that presented in Table 18 for all industries combined.

Table 19 INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1914	1909	Per cent distribution.	1914	1909	Per cent distribution.	1914	1909	Per cent distribution.	1914	1909	Per cent distribution.
			1914 1909			1914 1909			1914 1909			1914 1909
BOOTS AND SHOES, INCLUDING CUT STOCK AND FINDINGS.....	54	59	100.0 100.0	14,740	17,396	100.0 100.0	\$52,522,006	\$48,751,235	100.0 100.0	\$15,390,628	\$14,211,534	100.0 100.0
Less than \$20,000 <sup>1</sup> .....	5	7	9.2 11.9	35	42	0.2 0.2	37,684	85,288	0.1 0.2	20,057	48,468	0.1 0.3
\$20,000 to \$100,000.....	5	4	9.2 6.8	101	69	0.7 0.4	297,081	157,600	0.6 0.3	111,480	65,062	0.7 0.5
\$100,000 to \$1,000,000.....	27	32	50.0 54.2	5,371	6,435	36.4 37.0	14,185,003	17,520,727	27.0 35.9	5,106,881	5,662,868	33.2 39.8
\$1,000,000 and over.....	17	16	31.5 27.1	9,233	10,850	62.6 62.4	38,002,238	30,987,620	72.4 63.6	10,151,610	8,435,136	66.0 59.4
BREAD AND OTHER BAKERY PRODUCTS.....	1,043	954	100.0 100.0	5,269	4,743	100.0 100.0	19,940,499	18,523,826	100.0 100.0	9,783,693	7,694,492	100.0 100.0
Less than \$5,000.....	503	473	48.2 49.6	321	312	6.1 6.6	1,548,923	1,345,051	7.8 7.3	744,934	617,347	7.6 8.0
\$5,000 to \$20,000.....	460	408	44.7 42.8	1,010	851	19.2 17.9	3,817,534	3,466,654	19.1 18.7	1,825,285	1,584,225	18.7 20.6
\$20,000 to \$100,000.....	54	58	5.2 6.1	660	807	12.5 12.8	2,364,435	2,425,794	11.9 13.1	979,091	1,024,146	10.0 13.3
\$100,000 to \$1,000,000.....	16	11	1.5 1.1	1,091	837	20.7 18.7	4,452,049	3,440,970	22.3 18.6	2,069,905	1,462,361	21.2 19.0
\$1,000,000 and over.....	4	4	0.4 0.4	2,187	2,086	41.5 44.0	7,757,558	7,845,357	38.9 42.3	4,164,478	3,006,413	42.6 39.1
CARRIAGES AND WAGONS AND MATERIALS.....	223	243	100.0 100.0	2,560	3,302	100.0 100.0	6,850,955	8,468,856	100.0 100.0	3,019,396	3,609,026	100.0 100.0
Less than \$5,000.....	100	100	44.8 41.2	107	147	4.2 4.5	258,790	273,785	3.8 3.2	170,719	168,166	5.9 4.7
\$5,000 to \$20,000.....	83	87	37.2 35.8	422	500	16.5 15.1	818,675	846,331	12.0 10.0	544,338	543,392	18.0 15.1
\$20,000 to \$100,000.....	29	38	13.0 15.6	575	759	22.5 23.0	1,250,119	1,511,179	18.2 17.8	680,095	765,552	22.5 21.2
\$100,000 and over <sup>2</sup> .....	11	18	5.0 7.4	1,456	1,896	56.9 57.4	4,523,371	5,837,561	66.0 68.9	1,618,244	2,131,916	53.6 59.1
CLOTHING, MEN'S, INCLUDING SHIRTS.....	90	84	100.0 100.0	8,140	7,994	100.0 100.0	17,300,109	15,407,193	100.0 100.0	7,263,972	6,335,883	100.0 100.0
Less than \$5,000.....	11	9	12.2 10.7	25	26	0.3 0.3	25,474	15,811	0.1 0.1	18,820	13,086	0.3 0.2
\$5,000 to \$20,000.....	19	18	21.1 21.4	230	214	2.8 2.7	186,100	203,300	1.1 1.3	134,917	120,100	1.9 1.9
\$20,000 to \$100,000.....	24	30	26.7 35.7	539	1,016	6.6 12.7	1,283,008	1,714,392	7.4 11.1	618,283	703,843	8.5 12.1
\$100,000 to \$1,000,000.....	32	23	35.6 27.4	4,347	3,953	53.4 49.4	8,314,054	7,553,797	48.1 49.0	3,082,141	3,129,792	42.4 49.3
\$1,000,000 and over.....	4	4	4.4 4.8	2,999	2,785	36.8 34.8	7,490,873	5,917,833	43.3 38.4	3,409,811	2,313,062	46.9 36.5
FLOUR-MILL AND GRIST-MILL PRODUCTS.....	641	680	100.0 100.0	2,096	2,198	100.0 100.0	38,686,309	44,508,106	100.0 100.0	5,423,920	5,682,478	100.0 100.0
Less than \$5,000.....	145	138	22.6 20.3	94	60	4.5 2.7	384,498	364,738	1.0 0.8	80,643	79,242	1.5 1.4
\$5,000 to \$20,000.....	244	251	38.1 36.9	275	287	13.1 13.1	2,771,811	2,801,137	7.2 6.3	538,725	574,739	9.9 10.1
\$20,000 to \$100,000.....	182	221	28.4 32.5	534	624	25.5 28.4	7,411,813	9,718,475	19.2 21.8	1,205,274	1,691,347	22.2 23.8
\$100,000 to \$1,000,000.....	65	62	10.1 9.1	874	776	41.7 35.3	20,030,330	19,019,790	51.8 42.7	2,493,646	2,304,640	46.0 40.6
\$1,000,000 and over.....	5	8	0.8 1.2	319	451	15.2 20.5	8,081,857	12,609,966	20.9 28.3	1,105,732	1,032,510	20.4 28.2
FOUNDRY AND MACHINE-SHOP PRODUCTS.....	356	329	100.0 100.0	8,449	7,443	100.0 100.0	22,270,635	19,975,149	100.0 100.0	11,748,725	10,819,432	100.0 100.0
Less than \$5,000.....	85	86	23.9 26.1	84	121	1.0 1.6	195,906	215,198	0.9 1.1	147,418	151,958	1.3 1.4
\$5,000 to \$20,000.....	107	86	30.1 26.1	536	407	6.3 5.5	1,209,410	948,320	5.4 4.7	831,468	624,568	7.1 5.8
\$20,000 to \$100,000.....	114	107	32.0 32.5	1,819	1,689	21.5 22.7	4,985,977	4,677,756	22.4 23.4	2,802,239	2,542,307	23.9 23.5
\$100,000 and over <sup>2</sup> .....	50	50	14.0 15.2	6,010	5,226	71.1 70.2	15,879,342	14,135,875	71.3 70.8	7,967,600	7,500,599	67.8 69.3

<sup>1</sup> Includes the group "less than \$5,000."

<sup>2</sup> Includes the group "\$1,000,000 and over."

Table 19—Continued.

INDUSTRY AND VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.				AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
	1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.	
			1914	1909			1914	1909			1914	1909			1914	1909
FURNITURE AND REFRIGERATORS.....	100	99	100.0	100.0	3,346	3,427	100.0	100.0	\$7,608,343	\$7,380,091	100.0	100.0	\$4,075,814	\$4,053,522	100.0	100.0
Less than \$5,000.....	17	13	17.0	13.1	17	9	0.5	0.3	39,658	27,494	0.5	0.4	23,730	18,079	0.6	0.4
\$5,000 to \$20,000.....	20	21	20.0	21.2	107	115	3.2	3.4	223,693	219,717	2.9	3.0	141,283	132,948	3.5	3.3
\$20,000 to \$100,000.....	39	45	39.0	45.5	1,041	1,184	31.1	34.5	2,052,035	2,556,453	27.0	34.6	1,128,547	1,421,988	27.7	35.1
\$100,000 to \$1,000,000.....	24	20	24.0	20.2	2,181	2,119	65.2	61.8	5,292,957	4,576,427	60.6	62.0	2,782,254	2,480,507	68.2	61.2
LIQUORS, MALT.....	32	31	100.0	100.0	5,947	5,646	100.0	100.0	31,801,404	27,446,504	100.0	100.0	24,428,671	19,878,748	100.0	100.0
Less than \$20,000 <sup>1</sup> .....	5	6	15.6	19.4	13	17	0.2	0.3	42,472	54,697	0.1	0.2	29,085	40,788	0.1	0.2
\$20,000 to \$100,000.....	11	12	34.4	38.7	162	112	2.7	2.0	697,173	549,454	2.2	2.0	474,073	393,943	1.0	2.0
\$100,000 to \$1,000,000.....	11	8	34.4	25.8	777	417	13.1	7.4	4,677,039	3,048,848	14.7	11.1	3,104,500	2,341,633	13.0	11.8
\$1,000,000 and over.....	5	5	15.6	16.1	4,995	5,100	84.0	90.3	20,384,720	23,793,505	83.0	86.7	20,761,013	17,102,384	85.0	86.0
LUMBER AND TIMBER PRODUCTS.....	956	1,098	100.0	100.0	9,196	13,522	100.0	100.0	18,396,838	23,260,926	100.0	100.0	9,984,182	12,647,273	100.0	100.0
Less than \$5,000.....	597	626	62.4	57.0	702	1,448	7.6	10.7	1,139,840	1,200,823	6.2	5.2	812,441	889,695	8.1	7.0
\$5,000 to \$20,000.....	202	278	21.1	25.3	1,313	2,335	14.3	17.3	2,034,976	2,728,425	11.1	11.7	1,320,901	1,801,100	13.2	14.2
\$20,000 to \$100,000.....	120	151	12.6	13.8	3,035	4,391	33.0	32.5	5,416,421	7,037,774	29.4	30.3	3,173,945	4,173,050	31.8	33.0
\$100,000 and over <sup>2</sup> .....	37	43	3.9	3.9	4,146	5,348	45.1	39.5	9,805,601	12,293,904	53.3	52.9	4,676,895	5,783,428	46.8	45.7
PRINTING AND PUBLISHING.....	1,353	1,322	100.0	100.0	10,571	10,790	100.0	100.0	33,173,414	29,651,153	100.0	100.0	23,602,183	21,024,401	100.0	100.0
Less than \$5,000.....	763	782	56.4	59.2	1,039	1,112	9.8	10.3	1,807,148	1,810,400	5.4	6.1	1,457,120	1,455,657	6.2	6.9
\$5,000 to \$20,000.....	388	362	28.7	27.4	1,651	1,737	15.6	16.1	3,676,837	3,516,225	11.1	11.9	2,918,344	2,749,492	12.3	13.1
\$20,000 to \$100,000.....	143	125	10.6	9.5	2,100	2,074	19.9	19.2	6,009,942	5,191,019	18.1	17.5	4,441,214	3,792,000	18.8	18.0
\$100,000 to \$1,000,000.....	53	48	3.9	3.6	3,861	4,185	36.5	38.8	12,063,024	10,908,559	36.4	36.8	8,324,552	7,649,293	35.3	36.4
\$1,000,000 and over.....	6	5	0.4	0.4	1,920	1,682	18.2	15.6	9,616,463	8,224,950	29.0	27.7	6,460,953	5,377,959	27.4	25.6
SLAUGHTERING AND MEAT PACKING.....	40	45	100.0	100.0	5,200	4,674	100.0	100.0	92,060,499	79,581,294	100.0	100.0	7,376,434	7,383,030	100.0	100.0
Less than \$20,000 <sup>1</sup> .....	7	11	17.5	24.4	6	14	0.1	0.3	30,129	113,272	(*)	0.1	12,451	23,910	0.2	0.3
\$20,000 to \$100,000.....	11	14	27.5	31.1	60	52	1.2	1.1	504,621	750,029	0.5	0.9	112,076	110,578	1.5	1.5
\$100,000 to \$1,000,000.....	13	12	32.5	26.7	217	274	4.2	5.9	3,454,019	4,284,842	3.8	5.4	411,200	516,027	5.6	7.0
\$1,000,000 and over.....	9	8	22.5	17.8	4,917	4,334	94.6	92.7	88,071,730	74,433,151	95.7	93.5	6,840,647	6,732,515	92.7	91.2

<sup>1</sup> Includes the group "less than \$5,000."<sup>2</sup> Includes the group "\$1,000,000 and over."<sup>3</sup> Less than one-tenth of 1 per cent.

It will be noted that the average number of wage earners, value of products, and value added by manufacture per establishment are high in the boot and shoe, malt-liquor, and slaughtering and meat-packing industries; while the averages are low in the bread and bakery products, lumber, and printing and publishing industries. The average value of products per establishment in the slaughtering and meat-packing industry was \$2,301,512, and in the lumber and timber industry, \$19,244.

Of the establishments reporting a product of \$1,000,000 and over, the boot and shoe industry, the malt-liquor industry, and slaughtering and meat-packing reported 72.4 per cent, 83 per cent, and 95.7 per cent, respectively, of the total value of products for the industry. The only industry shown in which the establishments in the groups \$100,000 and over did not report more than 60 per cent of the total value of products was lumber and timber, which is carried on quite commonly throughout the state in small establishments in small towns as well as in the large city plants. For the industries shown, with the exception of malt liquors, boots and shoes, and carriages and wagons and materials, the proportion of the value of products contributed by the group of largest establishments has increased during the period 1909-1914.

Other important industries having a high average value of products per establishment are tobacco, chewing and smoking; coffee and spice, roasting and grinding; and chemicals; but, in order to avoid disclosing the operations of individual establishments,

these industries are not shown separately in the table.

Table 20 presents, for all industries combined, in each of the cities having more than 10,000 inhabitants, except Independence, statistics similar to those given in Table 18 for the state as a whole.

Table 20

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
CAPE GIRARDEAU.....	42	1,259	100.0	\$3,888,376	100.0	\$1,532,586	100.0
Less than \$5,000.....	9	9	0.7	25,743	0.7	15,280	1.0
\$5,000 to \$20,000.....	14	71	5.6	133,134	3.4	80,674	5.3
\$20,000 to \$100,000.....	13	198	15.7	497,434	12.8	304,417	19.9
\$100,000 and over <sup>1</sup> .....	6	981	77.9	3,232,065	83.1	1,132,215	73.9
COLUMBIA.....	22	479	100.0	1,269,702	100.0	767,655	100.0
Less than \$5,000.....	4	2	0.4	8,810	0.7	7,220	0.9
\$5,000 to \$20,000.....	11	65	13.6	115,469	9.1	82,444	10.7
\$20,000 to \$100,000.....	4	35	7.3	113,274	8.9	52,056	6.8
\$100,000 to \$1,000,000.....	3	377	78.7	1,032,149	81.3	625,935	81.5
HANNIBAL.....	66	2,366	100.0	6,214,645	100.0	2,419,579	100.0
Less than \$5,000.....	19	31	1.3	43,160	0.7	29,366	1.2
\$5,000 to \$20,000.....	20	113	4.8	198,664	3.2	103,368	4.3
\$20,000 to \$100,000.....	19	319	13.5	898,483	14.5	454,218	18.8
\$100,000 and over <sup>1</sup> .....	8	1,903	80.4	5,074,338	81.6	1,832,627	75.7
JEFFERSON CITY.....	50	1,401	100.0	8,086,920	100.0	3,343,426	100.0
Less than \$5,000.....	8	10	0.7	21,065	0.3	15,607	0.5
\$5,000 to \$20,000.....	24	103	7.4	264,945	3.3	174,031	5.2
\$20,000 to \$100,000.....	6	55	3.9	257,124	3.2	121,035	3.6
\$100,000 and over <sup>1</sup> .....	12	1,233	88.0	7,543,786	93.3	3,031,853	90.7
JOPLIN.....	100	1,156	100.0	5,950,150	100.0	1,829,915	100.0
Less than \$5,000.....	34	25	2.2	77,722	1.3	49,575	2.7
\$5,000 to \$20,000.....	39	136	11.8	406,483	6.8	220,814	12.1
\$20,000 to \$100,000.....	16	251	21.7	769,564	12.9	384,238	21.0
\$100,000 and over <sup>1</sup> .....	11	744	64.3	4,696,381	78.9	1,175,288	64.2

<sup>1</sup> Includes the group, "\$1,000,000 and over."

**Table 20—Contd.**

CITY AND VALUE OF PRODUCT.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
		Average number.	Per cent of total.	Amount.	Per cent of total.	Amount.	Per cent of total.
KANSAS CITY.....	1,052	16,252	100.0	\$60,953,411	100.0	\$28,972,788	100.0
Less than \$5,000.....	320	269	1.7	839,388	1.4	540,386	1.9
\$5,000 to \$20,000.....	367	1,417	8.7	3,794,493	6.2	2,417,063	8.3
\$20,000 to \$100,000.....	257	3,831	23.6	11,227,558	18.4	6,155,436	21.3
\$100,000 to \$1,000,000.....	99	7,563	46.5	28,404,465	46.6	12,610,109	43.5
\$1,000,000 and over.....	9	3,172	19.5	16,687,507	27.4	7,219,794	24.9
MOBERLY.....	30	1,411	100.0	3,136,734	100.0	1,299,164	100.0
Less than \$5,000.....	9	9	0.6	25,200	0.8	16,893	1.3
\$5,000 to \$20,000.....	9	42	3.0	86,559	2.8	50,656	3.9
\$20,000 and over.....	12	1,360	96.4	3,024,975	96.4	1,231,615	94.9
ST. CHARLES.....	19	1,683	100.0	4,993,624	100.0	1,920,420	100.0
Less than \$5,000.....	5	7	0.4	14,624	0.3	9,777	0.5
\$5,000 to \$20,000.....	7	35	2.1	82,515	1.7	48,336	2.5
\$20,000 and over.....	7	1,641	97.5	4,896,485	98.0	1,862,307	97.0
ST. JOSEPH.....	267	4,914	100.0	17,067,642	100.0	6,460,292	100.0
Less than \$5,000.....	91	79	1.6	209,151	1.2	132,011	2.0
\$5,000 to \$20,000.....	90	381	7.8	1,024,024	6.0	594,930	9.2
\$20,000 to \$100,000.....	51	793	16.1	2,190,967	12.8	1,066,820	16.5
\$100,000 and over.....	35	3,661	74.5	13,643,500	80.0	4,666,531	72.3
ST. LOUIS.....	2,787	85,058	100.0	360,470,868	100.0	156,673,572	100.0
Less than \$5,000.....	881	753	0.9	2,254,502	0.6	1,444,107	0.9
\$5,000 to \$20,000.....	823	3,225	3.8	8,117,076	2.3	5,130,655	3.3
\$20,000 to \$100,000.....	619	11,436	13.4	30,004,538	8.3	16,907,164	10.8
\$100,000 to \$1,000,000.....	397	36,498	42.9	114,112,162	31.7	52,429,960	33.5
\$1,000,000 and over.....	67	33,146	39.0	205,991,290	57.1	80,761,686	51.5
SEDALIA.....	69	903	100.0	2,921,686	100.0	970,786	100.0
Less than \$5,000.....	25	33	3.7	62,127	2.1	42,693	4.4
\$5,000 to \$20,000.....	21	79	8.7	209,274	7.2	119,293	12.3
\$20,000 to \$100,000.....	18	151	16.7	681,668	23.3	354,328	36.5
\$100,000 to \$1,000,000.....	5	640	70.9	1,968,617	67.4	454,472	46.8
SPRINGFIELD.....	109	2,009	100.0	6,192,954	100.0	2,427,069	100.0
Less than \$5,000.....	32	42	2.1	74,187	1.2	48,051	2.0
\$5,000 to \$20,000.....	42	223	11.1	415,135	6.7	247,717	10.2
\$20,000 to \$100,000.....	21	342	17.0	1,088,677	17.6	540,264	22.3
\$100,000 and over.....	14	1,402	69.8	4,614,955	74.5	1,591,037	65.5
WEBB CITY.....	20	136	100.0	706,227	100.0	218,332	100.0
Less than \$5,000.....	7	10	7.4	16,553	2.3	9,695	4.4
\$5,000 to \$20,000.....	8	34	25.0	77,857	11.0	47,160	21.6
\$20,000 and over.....	5	92	67.6	611,817	86.6	161,477	74.0

<sup>1</sup> Includes the groups "\$100,000 to \$1,000,000" and "\$1,000,000 and over."

<sup>2</sup> Includes the group "\$1,000,000 and over."

<sup>3</sup> Includes the group "\$100,000 and over."

The cities having the highest average value of products per establishment, for all classes combined, were St. Charles, with \$262,822, and Jefferson City, with \$161,738; and those having the lowest averages were Sedalia and Webb City, with \$42,343 and \$35,311, respectively. There were 67 establishments in St. Louis having products in excess of \$1,000,000.

For every city shown, a majority of the establishments are in those classes having products valued at less than \$20,000, but only in the case of wage earners for Webb City, are the average number of wage earners or the value of products reported more than 15 per cent of the totals for the city.

Table 21 shows the size of establishments in 1914, as measured by number of wage earners employed. The figures given are for all industries combined, for 19 of the more important industries individually, and for 13 cities having more than 10,000 inhabitants.

Table 22 presents, for 1914, percentages based on the figures in Table 21, and for 1909, similar percentages for all industries combined and for individual industries in the state as a whole.

Of the 8,386 establishments reported for all industries, 1,311, or 15.6 per cent, employed no wage earners. These were small establishments in which the work was done by the proprietors or firm members. In some cases a few wage earners were employed for a short period, but the number was so small and the period so short that in computing the average number, as described in the "Explanation of terms," no wage earners could be shown for these establishments. The most numerous single group consists of 4,684 establishments, 55.9 per cent of the total number, employing from 1 to 5 wage earners. The establishments employing more than 100 wage earners numbered 295, of which 43 employed more than 500 each. Among the latter were 6 steam-railroad repair shops, 7 boot and shoe factories, 4 breweries, and 5 slaughtering and meat-packing establishments.

Of the wage earners, 44.1 per cent of the total were in establishments employing more than 250 wage earners. The single group reporting the largest number of employees is that comprising the establishments having 251 to 500 wage earners, which gave employment to 27,474 wage earners, or 18.1 per cent of the total for all industries. This group shows an average of 352 wage earners per establishment, 43.9 per cent of the total number of wage earners employed in the boot and shoe industry being in establishments of this class. Electrical machinery, apparatus, and supplies and glass also show large percentages of wage earners in the establishments employing 251 to 500 wage earners, 51.9 per cent and 42.2 per cent, respectively.

There was a slight increase during the period 1909-1914 in the proportion of wage earners in those groups of establishments employing more than 250 (as shown by Table 22). The industries showing the greatest increases in this respect are electrical machinery, apparatus, and supplies; confectionery; copper, tin, and sheet-iron products; and glass; while brick, tile, pottery, and other clay products and malt liquors, show the greatest decreases.

For the 13 cities shown, there were 688, or 14.8 per cent, of the 4,633 establishments which employed no wage earners; 2,111, or 45.6 per cent, employed 1 to 5 wage earners; and 98, or 2.1 per cent, more than 250 wage earners. Of the total number of wage earners, 44.4 per cent were in the latter class, and the average per establishment was 540. With the exception of Webb City, each city in the table shows one or more establishments employing more than 250 wage earners.

## MANUFACTURES—MISSOURI.

Table 21

Table 21	INDUSTRY AND CITY.	TOTAL.		ESTABLISHMENTS EMPLOYING—															
				No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.
		Establishments.	Wage earners (average number).		Establishments.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
All industries.....	8,386	152,182	1,311	4,684	9,865	1,327	14,845	534	17,274	235	16,676	174	26,444	78	27,474	32	22,518	11	17,086
Boots and shoes, including cut stock and findings.....	54	14,740	2	3	6	3	40	3	90	6	440	12	2,114	18	6,477	6	4,075	1	1,498
Bread and other bakery products.....	1,043	5,269	227	738	1,283	53	551	16	502	2	160	3	586	3	1,256	1	931	.....	.....
Brick, tile, pottery, and other clay products.....	93	5,196	.....	33	87	22	301	14	471	10	769	10	1,441	2	604	1	522	1	1,001
Carriages and wagons and materials.....	223	2,560	32	124	305	45	450	15	479	2	151	4	617	.....	.....	1	558	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.....	39	9,721	.....	2	8	5	53	7	214	5	363	7	1,083	7	2,660	5	4,210	1	1,130
Clothing, men's, including shirts.....	90	8,140	6	17	56	20	250	15	578	9	597	15	2,179	4	1,481	4	2,909	.....	.....
Clothing, women's.....	74	2,355	.....	9	31	32	392	19	617	10	674	3	385	1	256	.....	.....	.....	.....
Confectionery.....	100	2,520	15	59	114	9	110	4	136	4	342	8	1,330	1	488	.....	.....	.....	.....
Copper, tin, and sheet-iron products.....	195	2,506	16	124	279	34	327	9	301	4	297	7	990	1	312	.....	.....	.....	.....
Electrical machinery, apparatus, and supplies.....	19	2,560	.....	8	22	4	47	2	57	.....	.....	.....	.....	4	1,329	.....	.....	1	1,105
Flour-mill and gristmill products.....	641	2,096	134	431	841	57	599	15	412	4	274	.....	20	2,719	5	1,837	.....	.....	.....
Foundry and machine-shop products.....	356	8,449	25	148	364	107	1,177	33	1,010	18	1,342	20	495	2	573	.....	.....	.....	.....
Furniture and refrigerators.....	100	3,346	5	25	69	26	317	25	934	13	958	4	134	3	949	.....	.....	1	1,110
Glass.....	7	2,248	.....	.....	.....	1	11	1	35	.....	.....	1	235	1	491	3	2,176	1	2,328
Liquors, malt.....	32	5,947	.....	6	19	9	130	4	95	6	473	2	235	1	491	3	2,176	1	2,328
Lumber and timber products.....	956	9,196	91	621	1,051	139	1,601	69	2,173	22	1,441	10	1,652	4	1,278	.....	.....	.....	.....
Printing and publishing.....	1,353	10,571	301	788	1,897	169	1,734	56	1,809	21	1,422	13	1,952	4	1,219	1	538	.....	.....
Slaughtering and meat packing.....	40	5,200	4	9	20	15	182	3	81	2	130	1	102	1	202	4	2,688	1	1,705
Tobacco manufactures.....	431	3,997	178	208	414	31	335	9	304	2	108	2	345	.....	.....	.....	.....	1	2,491
All other industries.....	2,540	45,565	275	1,331	2,999	546	6,268	215	6,976	95	6,735	52	8,085	17	5,972	6	3,821	3	4,709
Total for cities <sup>1</sup> .....	4,633	119,027	688	2,111	4,912	962	10,887	432	14,073	192	13,590	150	22,656	65	22,740	26	18,142	7	12,027
CAPE GIRARDEAU.....	42	1,259	3	17	43	14	179	5	167	.....	.....	2	257	.....	.....	1	613	.....	.....
COLUMBIA.....	22	479	2	12	34	5	51	1	28	1	74	.....	1	292	.....	.....	.....	.....	.....
HANNIBAL.....	66	2,366	7	28	68	18	194	8	268	.....	.....	2	219	1	204	2	1,353	.....	.....
JEFFERSON CITY.....	50	1,401	6	26	69	11	132	2	74	.....	.....	3	540	2	586	.....	.....	.....	.....
JOPLIN.....	100	1,156	16	52	112	21	241	7	224	3	184	.....	1	395	.....	.....	.....	.....	.....
KANSAS CITY.....	1,052	16,252	130	535	1,216	244	2,740	83	2,719	27	1,823	23	3,248	9	3,575	1	931	.....	.....
MOBERLY.....	30	1,411	3	17	47	8	84	.....	.....	.....	.....	1	332	1	332	1	948	.....	.....
St. CHARLES.....	19	1,683	.....	10	28	7	59	.....	.....	.....	.....	1	484	.....	.....	.....	.....	1	1,112
St. JOSEPH.....	267	4,914	37	128	278	57	596	21	713	9	690	13	2,006	2	631	.....	.....	.....	.....
St. LOUIS.....	2,787	85,058	468	1,176	2,723	528	6,109	292	9,496	146	10,371	105	16,175	46	15,727	20	13,542	6	10,915
SEDALIA.....	69	903	4	43	105	16	129	4	112	.....	.....	1	103	1	454	.....	.....	.....	.....
SPRINGFIELD.....	109	2,009	11	54	158	28	325	9	272	5	391	1	108	.....	.....	1	75 5	.....	.....
WEBB CITY.....	20	136	1	13	31	5	48	.....	.....	1	57	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Statistics for Independence can not be shown without disclosing individual operations.

Table 22

INDUSTRY AND CITY.	Census year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.								INDUSTRY AND CITY.	Census year.	PER CENT OF TOTAL AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS EMPLOYING SPECIFIED NUMBER.							
		1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000			1 to 5	6 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1,000	Over 1,000
		1914	1909	1914	1909	1914	1909	1914	1909			1914	1909	1914	1909	1914	1909	1914	1909
All industries.....	1914	6.5	9.7	11.4	11.0	17.4	18.1	14.8	11.2	Furniture and refrigerators.....	1914	2.1	9.5	27.9	28.6	14.8	17.1	...	...
	1909	6.8	10.4	11.1	11.0	19.0	17.4	11.1	13.3		1909	1.5	10.0	28.2	25.1	25.1	10.1	...	...
Boots and shoes, including cut stock and findings.....	1914	(1)	0.3	0.6	3.0	14.3	43.9	27.6	10.2	Glass.....	1914	...	0.5	1.5	...	6.0	42.2	...	49.8
	1909	0.1	0.4	0.1	2.5	14.9	36.9	25.2	19.8		1909	...	...	...	...	18.6	20.7	...	60.7
Bread and other bakery products.....	1914	24.3	10.5	9.5	3.0	11.1	23.8	17.7	...	Liquors, malt.....	1914	0.3	2.2	1.6	8.0	3.9	8.3	38.6	39.1
	1909	25.1	8.4	6.4	4.1	12.0	26.0	18.0	...		1909	0.3	2.4	1.7	5.3	...	8.6	38.8	42.9
Brick, tile, pottery, and other clay products.....	1914	1.7	5.8	9.1	14.8	27.7	11.6	10.0	19.3	Lumber and timber products.....	1914	11.4	17.4	23.6	15.7	18.0	13.9	...	...
	1909	2.9	5.8	8.3	11.4	22.3	13.6	11.5	24.2		1909	11.9	20.8	19.3	18.2	14.6	15.1	...	...
Carriages and wagons and materials.....	1914	10.9	17.6	18.7	5.9	24.1	...	21.8	...	Printing and publishing.....	1914	17.9	16.4	17.1	13.5	18.5	11.5	5.1	...
	1909	11.1	19.5	16.8	19.0	18.3	...	16.3	...		1909	17.1	15.9	14.7	15.6	15.9	14.1	6.6	...
Cars and general shop construction and repairs by steam-railroad companies.....	1914	0.1	0.5	2.2	3.7	11.1	27.4	43.3	11.6	Slaughtering and meat packing.....	1914	0.4	3.5	1.5	2.5	2.0	5.6	51.7	32.8
	1909	0.1	1.1	0.9	2.9	19.0	28.8	6.6	40.6		1909	0.8	2.7	3.8	2.7	2.9	21.3	30.3	35.6
Clothing, men's, including shirts.....	1914	0.7	3.1	7.1	7.3	26.8	18.2	36.8	...	Tobacco manufactures.....	1914	10.4	8.4	7.6	2.7	8.6	...	...	62.3
	1909	0.6	2.1	8.6	7.0	24.6	27.9	16.5	12.6		1909	10.7	9.7	8.4	2.2	3.0	9.7	...	56.3
Clothing, women's.....	1914	1.3	16.6	26.2	28.6	16.3	10.9	...	...	All other industries.....	1914	6.6	13.8	15.3	14.8	17.7	13.1	8.4	10.3
	1909	0.8	15.9	20.4	20.1	32.6	10.2	...	...		1909	6.7	13.3	15.1	13.1	20.4	13.5	10.0	7.9
Confectionery.....	1914	4.5	4.4	5.4	13.6	52.8	19.4	...	...	Total for cities.....	1914	4.1	9.2	11.8	11.4	19.0	19.1	15.2	10.1
	1909	3.9	5.4	9.5	17.4	63.9	...	...	...	CAPE GIRARDEAU.....	1914	3.4	14.2	13.3	...	20.4	...	48.7	...
Copper, tin, and sheet-iron products.....	1914	11.1	13.0	12.0	11.9	39.5	12.5	...	...		1909	7.1	10.6	5.8	15.4	...	61.0	...	...
	1909	12.9	16.0	16.4	12.6	42.1	...	...	...	HANNIBAL.....	1914	2.9	8.2	11.3	...	9.3	11.2	57.2	...
Electrical machinery, apparatus, and supplies.....	1914	0.9	1.8	2.2	...	...	...	...	...		1909	4.9	9.4	5.3	...	38.5	41.8	...	...
	1909	2.1	7.2	...	5.1	53.8	32.1	...	43.2	JEFFERSON CITY.....	1914	9.7	20.8	19.4	15.9	...	34.2	...	...
Flour-mill and gristmill products.....	1914	40.1	27.1	19.7	13.1	...	...	...	...	JOPLIN.....	1914	...	...	...	...	...	...	...	...
	1909	39.0	31.6	15.6	9.2	4.6	...	...	...	KANSAS CITY.....	1914	8.5	16.9	16.7	11.2	20.0	22.0	5.7	...
Foundry and machine-shop products.....	1914	4.3	13.9	11.9	15.9	32.2	21.7	...	...	MOBERLY.....	1914	3.3	6.0	...	...	23.5	67.2	...	...
	1909	4.6	15.8	13.1	19.7	34.8	12.0	...	...	ST. CHARLES.....	1914	1.7	3.5	...	...	28.8	...	66.1	...
										ST. JOSEPH.....	1914	5.7	12.1	14.5	14.0	40.8	12.8	...	...
										ST. LOUIS.....	1914	3.2	7.2	11.2	12.2	19.0	18.5	15.9	12.8
										SEDALIA.....	1914	11.6	14.3	12.4	...	11.4	50.3	...	...
										SPRINGFIELD.....	1914	7.9	16.2	13.5	19.5	5.4	...	37.6	...
										WEBB CITY.....	1914	22.8	35.3	...	41.9	...	...	...	...

<sup>1</sup> Less than one-tenth of 1 per cent.



**Engines and power.**—Table 23 shows, for 1914, 1909, and 1904, for all industries combined, the number and horsepower of engines or motors employed in generating power (including electric motors, operated

by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

Table 23

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1914	1909	1904	Amount.			Per cent distribution.		
				1914	1909	1904	1914	1909	1904
Primary power, total.....	16,197	11,545	4,083	391,385	340,467	247,861	100.0	100.0	100.0
Owned.....	4,824	5,140	4,083	305,014	295,391	232,566	77.9	86.8	93.8
Steam engines and turbines <sup>1</sup> .....	3,428	3,802	3,257	283,490	280,494	223,879	72.4	82.4	90.3
Internal-combustion engines.....	1,273	1,200	658	18,321	11,159	4,960	4.7	3.3	2.0
Water wheels, turbines, and motors.....	123	138	168	3,203	3,738	3,727	0.8	1.1	1.5
Rented.....	11,373	6,405	—	86,371	45,076	15,295	22.1	13.2	6.2
Electric.....	11,373	6,405	(*)	84,362	44,056	13,965	21.6	12.9	5.6
Other.....	—	—	—	2,009	1,020	1,330	0.5	0.3	0.5
Electric.....	18,951	11,534	—	181,981	106,941	37,671	100.0	100.0	100.0
Rented.....	11,373	6,405	(*)	84,362	44,056	13,965	46.4	41.2	37.1
Generated by establishments reporting.....	7,578	5,129	2,382	97,619	62,885	23,706	53.6	58.8	62.9

<sup>1</sup> Figures for horsepower include for 1909 and 1904 the amounts reported under the head of "other" owned power.

<sup>2</sup> Not reported.

For 1914 the total primary power reported was 391,385 horsepower, as against 340,467 in 1909, the increase being 50,918 horsepower, or 15 per cent. Although steam furnishes the bulk of power used, its relative importance diminished somewhat between the two censuses. The total horsepower of steam engines and turbines in use in 1914 was 283,490 horsepower, or 72.4 per cent of the primary power, as compared with 280,494, or 82.4 per cent of the total, in 1909. This decrease in relative importance is due to the increasing use of rented electric power and of internal-combustion engines, which together represented 26.3 per cent of the total primary power in 1914, as against 16.2 per cent in 1909.

The use of water power shows a marked decline during the same period, the horsepower of water wheels, turbines, and motors decreasing 14.3 per cent for the period 1909-1914.

The power of motors operated by current generated in the establishments where used was equivalent to 24.9 per cent of the total primary power in 1914, as against 18.5 per cent in 1909. The aggregate capacity of the electric motors in use—both those run by rented electric current and those run by current generated in the same establishments—in 1914 was 181,981 horsepower. The use of electric power, both owned and rented, during the five-year period 1909-1914 increased by 70.2 per cent. Practically all industries reported electric power, the most important being cement, with 20,125 horsepower; glass, 14,822; malt liquors, 14,026; and printing and publishing, 11,545.

**Fuel.**—Closely related to the subject of power employed in manufactures is that of fuel consumed in generating this power or otherwise used in the manufacturing processes.

Table 24 shows, for 1914, the quantity of each kind of fuel used, for which data were obtained, for all industries combined and for certain selected industries in the state as a whole, and for all industries combined in each city.

Table 24

INDUSTRY AND CITY.	COAL.		Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	An-thra-cite (tons, 2,240 lbs.).	Bitumi-nous (tons, 2,000 lbs.).			
All industries.....	15,100	3,577,688	222,717	1,346,828	1,073,686
Boots and shoes, including cut stock and findings.....	6,550	42,034	—	18	4,162
Bread and other bakery products.....	4,218	52,743	13,347	24,958	140,441
Brick, tile, pottery, and other clay products.....	35	461,236	540	96,035	118,210
Carriages and wagons and materials.....	675	7,504	163	379	4,129
Cars and general shop construction and repairs by steam-railroad companies.....	—	223,077	675	34,168	502
Clothing, men's, including shirts.....	61	11,140	15	79	11,627
Confectionery.....	41	28,484	1,565	430	28,908
Copper, tin, and sheet-iron products.....	47	9,946	755	2,800	19,282
Flour-mill and gristmill products.....	74	134,436	2	4,919	14,209
Foundry and machine-shop products.....	671	68,827	36,962	21,683	73,020
Furniture and refrigerators.....	15	16,683	748	196	4,873
Gas, illuminating and heating.....	208	330,095	92,826	286,489	40,494
Glass.....	—	221,666	2,922	40,326	800
Ice, manufactured.....	—	317,521	—	5,589	108,447
Iron and steel, steel works and rolling mills.....	—	48,135	1,836	95,976	—
Leather goods.....	20	6,789	102	67	823
Lime.....	—	34,592	—	—	—
Liquors, malt.....	—	281,174	4,049	114,435	12,114
Lumber and timber products.....	16	35,191	1,061	3,614	4,630
Paint and varnish.....	4	20,613	210	1	1,138
Printing and publishing.....	572	26,535	45	13,548	65,551
Slaughtering and meat packing.....	—	223,730	—	74,916	199,581
Stoves and furnaces, including gas and oil stoves.....	7	14,099	3,173	—	576
All other industries.....	1,877	965,478	61,721	526,202	220,169
Total for cities.....	12,891	2,205,921	175,248	711,453	806,744
CAPE GIRARDEAU.....	—	17,262	—	25	—
COLUMBIA.....	4	6,821	394	1,185	409
HANNIBAL.....	81	38,657	3,679	2,113	1,458
INDEPENDENCE.....	9	11,702	1,609	3,262	42,114
JEFFERSON CITY.....	6	8,212	990	2,443	2,235
JOPLIN.....	43	9,500	7,369	866	152,005
KANSAS CITY.....	1,184	145,102	8,488	261,233	158,670
MOBERLY.....	2,026	18,565	653	2,087	206
ST. CHARLES.....	53	24,321	1,116	7,668	890
ST. JOSEPH.....	283	46,959	1,909	13,634	232,694
ST. LOUIS.....	9,115	1,809,267	145,024	402,195	163,899
SEDALIA.....	—	17,993	31	93	10,439
SPRINGFIELD.....	84	51,353	3,446	14,624	3,174
WEBB CITY.....	3	207	540	25	38,551

The principal fuel used was bituminous coal, although the proximity of some of the large industries to the Kansas and Oklahoma oil fields enabled them to use crude petroleum and natural gas as fuel.



## SPECIAL STATISTICS.

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantities and cost of materials, the quantities and values of products, and other information for securing which no provision is made on the general schedule. Certain data of this character for six important industries in Missouri are here presented, together with statistics for power laundries.

**Slaughtering and meat packing.**—This classification embraces wholesale slaughtering and meat-packing establishments only. Table 25 shows detail statistics for the materials and products for the industry for 1914, 1909, and 1904. The cost of "all other materials" includes ice, containers, curing materials, seasoning, cottonseed oil, fuel, rent of power, mill supplies, and freight. The value of canned goods, meat puddings, headcheese, scrapple, etc., lard compounds and substitutes, other oils, soap stock, oleo-margarine, hoofs, horns, horntips, etc., glue, goat and kid and other skins, and wool, have been included in "all other products," to avoid disclosure of individual reports.

Table 25	1914	1909	1904
<b>MATERIALS.</b>			
Total cost.....	\$84,335,435	\$72,004,428	\$54,042,087
Animals slaughtered:			
Beeves			
Number.....	359,910	530,356	573,887
Cost.....	\$24,718,132	\$24,332,919	\$22,047,756
Calves			
Number.....	45,213	81,551	52,044
Cost.....	\$637,528	\$821,829	\$389,123
Sheep and lambs—			
Number.....	776,751	546,649	564,784
Cost.....	\$4,192,669	\$2,659,215	\$2,224,718
Hogs—			
Number.....	2,793,439	2,471,658	2,126,932
Cost.....	\$47,559,427	\$36,911,941	\$23,253,132
Dressed meat purchased for curing, cost.....	<sup>1</sup> \$2,642,470	<sup>1</sup> \$4,015,472	<sup>1</sup> \$1,358,866
All other materials, cost.....	\$4,585,209	\$3,263,052	\$4,768,492
<b>PRODUCTS.</b>			
Total value.....	\$91,608,121	\$79,325,733	\$60,031,133
Fresh meat:			
Beef—			
Pounds.....	183,947,055	273,808,501	315,665,100
Value.....	\$20,469,895	\$20,038,884	\$19,171,944
Veal—			
Pounds.....	4,402,875	8,831,469	5,421,809
Value.....	\$549,457	\$767,841	\$389,860
Mutton and lamb—			
Pounds.....	30,382,856	21,896,982	23,555,759
Value.....	\$3,409,093	\$2,209,306	\$1,834,529
Pork—			
Pounds.....	164,944,862	138,974,435	118,797,174
Value.....	\$18,746,424	\$13,492,089	\$8,444,749
All other fresh meat—			
Pounds.....	20,108,325	10,867,868	2,630,218
Value.....	\$1,335,734	\$1,450,509	\$120,690
Cured meat:			
Beef, pickled and other cured—			
Pounds.....	1,253,335	1,668,474	904,663
Value.....	\$136,695	\$188,055	\$55,576
Pork, pickled and other cured—			
Pounds.....	209,922,094	222,224,021	195,757,762
Value.....	\$28,393,231	\$24,769,411	\$15,512,369
Sausage:			
Pounds.....	16,183,674	18,022,911	19,272,945
Value.....	\$1,984,958	\$1,376,818	\$1,304,473
Lard:			
Pounds.....	72,410,760	48,835,133	33,215,290
Value.....	\$7,573,570	\$5,595,067	\$2,313,583
Oleo oil:			
Gallons.....	833,249	846,906	1,829,250
Value.....	\$564,369	\$709,777	\$1,021,529

<sup>1</sup> Includes cost of all other animals.

Table 25—Continued.	1914	1909	1904
<b>PRODUCTS—Continued.</b>			
Tallow, oleo stock, and stearin:			
Pounds.....	10,642,870	14,122,291	( <sup>1</sup> )
Value.....	\$773,813	\$1,156,139	( <sup>1</sup> )
Sausage casings:			
Pounds.....	4,561,258	( <sup>1</sup> )	( <sup>1</sup> )
Value.....	\$473,885	( <sup>1</sup> )	( <sup>1</sup> )
Fertilizers and fertilizer materials:			
Tons.....	15,973	19,482	42,249
Value.....	\$473,606	\$564,335	\$617,080
Hides and pelts:			
Cattle—			
Number.....	359,910		
Pounds.....	21,920,168		
Value.....	\$3,449,506	567,275	612,670
Calves—			
Number.....	38,971	32,406,006	37,971,556
Pounds.....	526,789	\$4,427,484	\$3,349,715
Value.....	\$94,932		
Sheep—			
Number.....	776,751	281,627	580,261
Value.....	\$870,028	\$330,199	\$547,801
All other products, value.....	\$2,308,925	\$2,269,810	\$5,350,332

<sup>1</sup> Not reported separately.

The total cost of materials increased \$12,331,007, or 17.1 per cent, and the total value of products, \$12,282,388, or 15.5 per cent, during the census period 1909–1914. There were 3,975,313 animals slaughtered in 1914, 3,630,214 in 1909, and 3,317,647 in 1904, indicating a normal increase in the aggregate number during each period. The total production of fresh and cured meat, however, declined from 1909 to 1914. This decrease is attributed to the decline in the number of beeves and calves slaughtered and also to the decrease in the average weights of these animals.

**Boots and shoes.**—The number of pairs of the different kinds of boots and shoes made in 1914, 1909, and 1904 is given in the following table:

Table 26	NUMBER OF PAIRS.		
	1914	1909	1904
<b>PRODUCT.</b>			
Boots and shoes.....	20,444,240	24,657,180	15,018,052
Men's.....	8,840,878	9,303,028	5,740,729
Boys' and youths'.....	745,018	2,087,258	1,819,192
Women's.....	6,758,611	8,642,035	5,993,114
Misses' and children's.....	4,096,733	4,623,900	2,365,017
Slippers.....	102,422	616,229	249,806
All other.....	321,690	657,718	272,000

The total output for all kinds of boots and shoes in 1914 was 20,444,240 pairs, a decrease of 4,212,920, or 17.1 per cent, in the actual number of pairs manufactured in 1909. This is in part due to the liquidation of some establishments and curtailment of output in others. The proportion of the total for the United States represented by Missouri is 7.1 per cent, the corresponding percentage for 1909 being 9.1.

Men's boots and shoes form the leading class as in 1909 and show the smallest decrease in output, 5 per cent. Women's boots and shoes, which are next in importance, decreased 21.8 per cent, as compared with 1909, while misses' and children's decreased 11.4 per cent.

Table 27 shows the output of the industry, classified according to the method of manufacture.

PRODUCT.	Cen- sus year.	NUMBER OF PAIRS, BY METHOD OF MANUFACTURE.			
		Total.	Welted.	McKay.	Turned and wood or metal fastened.
Boots and shoes.....	1914 1909	20,444,240 24,657,160	7,364,001 7,423,545	9,318,739 14,204,733	3,761,500 3,028,882
Men's.....	1914 1909	8,540,878 9,303,028	5,188,588 5,584,054	1,337,283 2,299,792	2,315,007 1,419,182
Boys' and youths'.....	1914 1909	748,018 2,087,258	188,803 382,802	227,081 1,533,768	332,134 170,688
Women's.....	1914 1909	6,758,611 8,642,965	1,986,610 1,374,610	4,224,983 6,056,358	547,018 1,211,997
Misses' and children's....	1914 1909	4,096,733 4,623,909	( <sup>1</sup> ) 82,079	3,520,392 4,314,815	567,341 227,015
Slippers.....	1914 1909	102,422 616,229	..... .....	102,422 616,229	..... .....
All other.....	1914 1909	321,690 657,718	..... .....	<sup>2</sup> 321,690 657,718	..... .....

<sup>1</sup> Included with "turned and wood or metal fastened." <sup>2</sup> Includes "turned."

The McKay method was used for 45.6 per cent of the boots and shoes produced, the welted for 36 per cent, and the larger part of the remainder was wood or metal fastened.

Of the men's shoes, almost 60 per cent were welted, practically the same proportion as in 1909, while wood or metal fastened represent 26.2 per cent in 1914 and 15.3 in 1909; the remainder, 15.1 per cent, was McKay, no turned shoes being reported for this class. Of the women's shoes, 62.5 per cent and of the misses' and children's shoes, 86.2 per cent were of the McKay type; this style also predominated in 1909. The other classes of footwear formed only a negligible part of the total and were practically all McKay.

**Flour-mill and gristmill products.**—Table 25 gives the quantities and values of the products of this industry for the census years, 1914, 1909, and 1904.

Table 28	1914	1909	1904
Products, total value.....	\$38,686,309	\$44,508,106	\$38,026,142
Wheat flour:			
Barrels.....	5,402,391	5,672,269	6,175,541
Value.....	\$25,633,116	\$30,054,028	\$28,512,755
Corn meal and corn flour:			
Barrels.....	763,678	1,020,738	935,318
Value.....	\$2,641,988	\$3,129,694	\$2,343,395
Hominy and grits:			
Pounds.....	24,883,523	26,726,254	58,814,607
Value.....	\$373,432	\$413,234	\$613,653
Bran and middlings:			
Tons (2,000 lbs.).....	219,068	425,467	367,877
Value.....	\$5,071,600	\$9,711,059	\$6,528,010
Feed and offal:			
Tons.....	188,697		
Value.....	\$4,898,895		
All other products, value.....	\$67,278	\$1,200,091	\$28,329

In 1914 wheat flour formed 66.3 per cent of the total value of products of this industry, and bran and middlings combined with feed and offal, 25.8 per cent; the corresponding proportions for 1909 were 67.5 per cent and 21.8 per cent, respectively.

**Printing and publishing.**—Table 29 shows the number of publications, classified according to the period of issue, and the aggregate circulation per issue of each class for the census years 1914, 1909, and 1904.

Table 29 PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1914	1909	1904	1914	1909	1904
Total.....	1,004	1,003	1,032	9,098,333	7,577,639	8,133,162
Daily.....	89	91	92	1,432,219	1,624,621	1,126,760
Sunday.....	23	21	24	1,131,459	978,377	970,071
Semiweekly.....	112	12	119	108,326	290,739	590,203
Weekly.....	721	731	730	3,542,326	1,871,585	1,739,457
Monthly.....	110	117	133	1,755,852	2,265,275	3,365,168
Quarterly.....	23	12	15	414,245	203,504	191,948
All other classes.....	26	19	19	713,906	343,638	149,555

<sup>1</sup> Includes one triweekly.

This table shows a decrease in the total number of publications and aggregate circulation per issue for the five-year period 1904–1909, while for the last five-year period 1909–1914, although the total number of publications increased by only one, there was a considerable increase in total circulation, due mainly to the large increase of weeklies, 1,670,741, or 89.3 per cent. As a result of this increase, the greatest aggregate circulation per issue was in the weeklies, 3,542,326, while in 1909 and 1904, it was in the monthlies, which in 1914 show a decrease of 509,423, or 22.5 per cent.

The largest number for any class of publications reported was 721, or 71.8 per cent of the total, for weekly papers. The greatest average circulation shown for any class of publication, 49,194, is reported for Sunday editions. The average circulation of quarterlies in 1914 was 18,011; of dailies, 16,092; of monthlies, 15,962; of semiweeklies, 9,027; and of weeklies, 4,913. From 1909 to 1914 Sunday editions, weeklies, quarterlies, and the publications included under the head of "all other classes" each showed an increase in aggregate circulation.

In 1914 there were published in the state in the German language 3 dailies, 2 Sunday editions, 15 weeklies, 1 semiweekly, 12 monthlies, 4 semimonthlies, 1 bimonthly, and 3 quarterlies; in English and German, 2 weeklies, 2 monthlies, and 1 quarterly; in Bohemian, 1 weekly, 1 monthly, and 2 semimonthlies; in Croatian, 1 monthly; in Greek, 1 weekly; in Hungarian, 1 weekly; in Italian, 2 weeklies; and in Polish, 2 weeklies.

**Carriages and wagons and materials.**—The following table consists of a detailed statement of the kind, number, and value of carriages and wagons manufactured and of parts and materials used in the production of the completed vehicle in 1914, 1909, and 1904.

The value of products of the carriage and wagon industry in Missouri in 1914 amounted to \$6,850,955. Almost three-fourths (70 per cent) of the entire number of vehicles reported were family and pleasure

carriages, and their value constituted 45.5 per cent of the total.

Table 30	1914	1909	1904
Products, total value.....	\$6,850,955	\$8,468,856	\$7,678,429
Carriages (family and pleasure):			
Number.....	53,552	97,444	74,650
Value.....	\$3,118,458	\$3,913,969	\$3,826,342
Wagons (business, farm, etc.):			
Number.....	21,456	20,140	25,281
Value.....	\$1,356,509	\$1,388,699	\$1,507,225
Public conveyances:			
Number.....	30	98	53
Value.....	\$12,766	\$48,558	\$4,445
Sleighs and sleds:			
Number.....	1	53	6
Value.....	\$18	\$783	\$153
All other products, including parts and amount received for repair work, value.	\$2,363,144	\$3,116,847	\$2,340,264

<sup>1</sup> Includes the value of 12 automobiles manufactured by establishments devoted primarily to the manufacture of carriages and wagons.

As compared with 1909, there was a decrease for 1914 of 19.1 per cent in the total value of products of the industry and 36.3 per cent in the number of carriages and wagons made.

Decreases are shown for every item in the table for the period 1909 to 1914, with the exception of the number of wagons, which slightly increased. The situation is quite natural considering the rapidly increasing use of the automobile.

**Butter.**—The following table gives the quantity and value of the various products of the industry for 1914, 1909, and 1904.

Table 31	1914	1909	1904
Products, total value.....	\$5,167,343	\$2,958,818	\$1,313,958
Butter:			
Packed solid—			
Pounds.....	7,254,182	4,452,602	1,866,507
Value.....	\$1,961,029	\$1,213,508	\$386,379
Prints or rolls—			
Pounds.....	8,987,505	5,809,274	3,940,217
Value.....	\$2,493,617	\$1,648,722	\$806,228
Cream sold:			
Pounds.....	584,415	122,357	308,551
Value.....	\$59,074	\$18,838	\$28,329
All other products, value.....	\$653,623	\$77,750	\$93,022

As the manufacture of cheese and condensed milk was reported by only two establishments in 1914, the products have been excluded from the table, in order to avoid disclosure of individual operations; in 1904 and 1909 the products of such establishments were included with "all other products."

There was a large increase for both census periods in the total value of products and in each class of products between 1909 and 1914.

**Laundries.**—Statistics for power laundries were first presented at the census of 1909. These statistics, however, are not included in the general tables or in the totals for all manufacturing industries. Table

32, however, summarizes these statistics for Missouri for 1914 and 1909.

Table 32	POWER LAUNDRIES.		
	Number or amount.		Per cent of increase, <sup>1</sup> 1909-1914.
	1914	1909	
Number of establishments.....	177	171	3.5
Persons engaged.....	6,757	6,113	10.5
Proprietors and firm members.....	144	152	-5.3
Salaried employees.....	714	523	36.5
Wage earners (average number).....	5,899	5,438	8.5
Primary horsepower.....	7,941	5,727	38.7
Capital.....	\$4,332,735	\$3,407,985	27.1
Salaries and wages.....	3,334,921	2,564,005	30.1
Salaries.....	725,766	428,263	69.5
Wages.....	2,609,155	2,135,742	22.2
Contract work.....	9,821	16,277	-39.7
Rent and taxes.....	176,825	114,493	55.8
Cost of materials.....	1,349,790	892,197	51.3
Amount received for work done.....	6,316,206	4,904,249	28.8

<sup>1</sup> A minus sign (—) denotes decrease.

In 1914, as in 1909, Missouri ranked seventh among the states in amount received for work done and in number of persons engaged in the industry. Substantial increases are shown for the period 1909-1914, except in number of proprietors and firm members and contract work. The number of establishments under the corporate form of ownership increased by 10, while the other forms—individual, firm, etc.—decreased by 4. This, in a measure, accounts for the increase in salaried employees and their salaries and the decrease in proprietors and firm members.

Table 33 shows, for 1914 and 1909, the number of wage earners employed in the laundries on the 15th of each month, or the nearest representative day, and the percentage which this number forms of the greatest number employed in any month of the same year.

Table 33	WAGE EARNERS.			
	Number.		Per cent of maximum.	
MONTH.	1914	1909	1914	1909
January.....	5,868	5,199	96.8	91.4
February.....	5,867	5,171	96.8	90.9
March.....	5,899	5,235	97.3	92.0
April.....	5,891	5,275	97.1	92.7
May.....	5,902	5,281	97.3	92.8
June.....	6,056	5,525	99.9	97.1
July.....	6,064	5,641	100.0	99.2
August.....	5,960	5,689	98.3	100.0
September.....	5,875	5,652	98.3	99.3
October.....	5,813	5,556	95.9	97.7
November.....	5,770	5,522	95.2	97.1
December.....	5,813	5,505	95.9	96.8

Table 34 gives statistics for the kind and amount of power used in the laundries of the state in 1914 and 1909, together with the percentages of increase for the five-year period.

Table 34

KIND.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.		
			Amount.		Per cent of in- crease, 1909- 1914.
	1914	1909	1914	1909	
Primary power, total.....	292	200	7,941	5,727	38.7
Owned.....	181	170	7,489	5,577	34.3
Steam.....	162	155	7,175	5,288	35.7
Internal combustion.....	19	15	314	289	8.7
Rented.....	111	30	452	150	201.3
Electric.....	111	30	382	150	154.7
Other.....			70		
Electric—Generated in establishments reporting.....	369		1,695		

Table 35 shows the kinds and quantities of fuel used in the laundries, as reported at the censuses of 1914 and 1909, with percentages of increase.

KIND.	Unit.	QUANTITY.		Per cent of in- crease, <sup>1</sup> 1909-1914.
		1914	1909	
Anthracite coal.....	Tons, 2,240 lbs.....	660	676	-2.4
Bituminous coal.....	Tons, 2,000 lbs.....	72,494	52,650	37.7
Coke.....	Tons, 2,000 lbs.....	357	10	.....
Oil.....	Barrels.....	48,422	26,126	85.3
Gas.....	1,000 cubic feet.....	69,329	207,928	-66.7

<sup>1</sup> A minus sign (-) denotes decrease; percentage is omitted where base is less than 100.

## GENERAL TABLES.

Table 36 gives, for 1914, 1909, and 1904, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products, for selected industries in the state and in the cities having 50,000 inhabitants or more, and for the cities having from 10,000 to 50,000 inhabitants, similar data for all industries combined.

TABLE 36.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.	Expressed in thousands.	Expressed in thousands.						Expressed in thousands.	Expressed in thousands.	Expressed in thousands.
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.															
All industries.....	1914	8,386	152,182	391,385	\$89,197	\$388,715	\$637,952	Coffee and spice, roast- ing and grinding.	1914	37	656	2,760	\$355	\$10,949	\$14,299
	1909	8,375	152,993	340,467	80,843	354,411	574,111		1909	40	730	2,379	342	9,192	12,062
	1904	6,464	133,167	247,861	66,644	252,258	439,549		1904	26	554	1,243	268	5,145	7,264
Agricultural imple- ments.	1914	18	240	742	142	270	570	Coffins, burial cases, and undertakers' goods.	1914	8	436	792	267	586	1,038
	1909	25	438	1,080	219	504	981		1909	11	540	663	296	770	1,505
	1904	21	525	856	261	452	1,068		1904	11	485	904	245	648	1,246
Automobiles, including bodies and parts.	1914	25	504	626	389	1,207	2,183	Confectionery.....	1914	100	2,520	2,465	950	4,090	7,256
	1909	17	368	184	252	1,025	1,677		1909	61	1,882	1,268	770	3,934	6,650
	1904	13	21	20	16	31	63		1904	43	1,779	1,048	628	2,632	4,630
Awnings, tents, and sails	1914	21	428	203	206	991	1,552	Cooperage and wooden goods, not elsewhere specified.	1914	39	852	1,702	431	1,162	1,888
	1909	18	429	217	193	1,207	1,784		1909	43	1,088	2,319	558	1,002	3,079
	1904	12	309	65	138	824	1,237		1904	46	1,781	3,314	739	2,264	3,712
Blackening and cleansing and polishing prepara- tions.	1914	37	81	319	40	321	660	Copper, tin, and sheet- iron products.	1914	195	2,506	2,394	1,569	4,769	8,390
	1909	32	110	162	55	303	600		1909	207	2,637	1,556	1,482	4,598	7,827
	1904	10	35	100	14	85	169		1904	106	2,218	878	1,099	3,288	5,720
Boots and shoes, includ- ing cut stock and findings.	1914	54	14,740	9,527	6,933	37,131	52,522	Electrical machinery, apparatus, and sup- plies.	1914	19	2,560	1,918	1,536	2,416	6,643
	1909	59	17,396	11,113	8,164	34,540	48,751		1909	20	1,080	1,180	627	1,104	3,251
	1904	43	10,451	5,145	4,349	14,953	23,541		1904	20	795	824	412	606	1,741
Boxes, fancy and paper.	1914	32	1,092	727	455	747	1,636	Flavoring extracts.....	1914	12	100	125	54	571	1,009
	1909	27	1,113	657	372	669	1,376		1909	12	80	70	31	272	648
	1904	17	847	363	240	363	770		1904	13	88	46	30	255	492
Brass and bronze prod- ucts.	1914	18	383	523	264	2,438	3,047	Flour-mill and gristmill products.	1914	641	2,096	39,003	1,122	33,262	38,686
	1909	18	297	448	196	1,654	2,221		1909	680	2,198	43,175	1,040	38,826	44,568
	1904	16	196	178	122	1,184	1,527		1904	582	2,345	40,262	1,091	32,028	38,026
Bread and other bakery products.	1914	1,043	5,269	5,000	2,875	10,157	19,940	Food preparations, not elsewhere specified.	1914	54	629	1,997	305	6,147	7,794
	1909	954	4,743	3,023	2,487	10,829	18,524		1909	37	471	1,551	214	4,254	5,354
	1904	614	3,764	1,944	1,816	7,281	12,672		1904	35	571	630	184	2,058	3,002
Brick, tile, pottery, and other clay products.	1914	93	5,196	14,757	2,774	1,997	6,517	Foundry and machine- shop products.	1914	356	8,449	18,002	5,877	10,522	22,271
	1909	149	6,137	16,122	3,023	2,088	7,745		1909	329	7,443	13,568	4,860	9,156	19,975
	1904	195	4,869	13,034	2,365	1,421	5,682		1904	256	7,155	9,905	4,274	6,073	14,092
Butter.....	1914	54	361	1,556	202	4,367	5,167	Furnishing goods, men's	1914	16	873	122	250	990	1,574
	1909	56	159	788	100	2,409	2,959		1909	20	305	48	106	490	831
	1904	54	148	573	69	1,033	1,314		1904	13	163	32	39	229	408
Canning and preserving.	1914	153	850	1,012	142	740	1,082	Furniture and refrig- erators.	1914	100	3,346	6,546	2,043	3,533	7,008
	1909	222	952	974	186	1,005	1,574		1909	99	3,427	6,203	1,919	3,327	7,390
	1904	75	758	1,154	171	849	1,323		1904	77	2,777	4,909	1,415	1,985	4,896
Carriages and wagons and materials.	1914	223	2,560	4,528	1,636	3,832	6,851	Gas, illuminating and heating..	1914	35	1,342	16,351	844	2,143	7,197
	1909	243	3,302	5,858	1,781	4,860	8,469		1909	29	941	3,635	636	1,223	4,634
	1904	248	3,163	3,431	1,726	4,261	7,678		1904	28	1,826	3,050	898	1,778	5,585
Cars and general shop construction and re- pairs by electric-rail- road companies.	1914	8	1,168	812	807	834	1,710	Glass.....	1914	7	2,248	12,445	1,588	1,575	3,882
	1909	7	905	3,005	620	501	1,204		1909	4	1,755	8,820	758	947	1,993
	1904	4	935	.....	603	490	1,211		1904	6	1,561	5,755	938	708	1,781
Cars and general shop construction and re- pairs by steam-rail- road companies.	1914	39	9,721	9,031	6,839	5,372	12,847	Hats and caps, other than felt, straw, and wool.	1914	13	212	26	133	356	581
	1909	35	8,121	9,042	5,097	4,128	9,812		1909	14	182	39	106	218	440
	1904	34	6,760	4,993	4,165	4,112	8,720		1904	9	171	20	86	180	330
Chemicals.....	1914	22	842	1,764	498	4,164	6,936	Ice, manufactured.....	1914	117	1,059	26,787	748	1,041	3,107
	1909	9	619	886	333	2,224	3,640		1909	92	761	22,904	472	667	2,084
	1904	11	640	1,330	310	2,172	3,279		1904	53	433	13,546	272	399	1,130
Clothing, men's, includ- ing shirts.	1914	90	8,140	2,560	3,213	10,036	17,300	Iron and steel, steel works and rolling mills.	1914	3	1,237	7,062	954	1,887	3,363
	1909	84	7,994	1,559	2,994	9,071	15,407		1909	4	2,227	6,255	1,320	2,859	5,013
	1904	73	6,070	1,322	2,098	5,543	10,329		1904	4	1,349	4,692	928	1,588	2,999
Clothing, women's.....	1914	74	2,355	602	1,093	3,034	5,517	Jewelry.....	1914	28	461	225	366	400	1,088
	1909	68	2,750	487	1,137	3,180	5,439		1909	19	376	160	272	323	873
	1904	52	1,893	405	673	1,799	3,322		1904	17	252	87	201	235	589

<sup>1</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>2</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>3</sup> Includes "pickles, preserves, and sauces."

<sup>4</sup> Includes "stamped ware" and "tinware."

<sup>5</sup> Includes "automobile repairing," "bells," "engines, steam, gas, and water," "gas machines and gas and water meters," "hardware," "hardware, saddlery," "plumbers' supplies," "steam fittings and steam and hot-water heating apparatus," and "structural ironwork, not made in steel works or rolling mills."

## MANUFACTURES—MISSOURI.

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TABLE 36.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Expressed in thousands.			INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Expressed in thousands.		
					Wages.	Cost of mate- rials.	Value of prod- ucts.						Wages.	Cost of mate- rials.	Value of prod- ucts.
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
Leather goods.....	1914	<sup>1</sup> 133	1,419	1,392	\$899	\$3,179	\$5,859	Paper goods, not else- where specified.	1914	<sup>4</sup> 12	578	651	\$285	\$926	\$1,682
	1909	106	1,814	<sup>2</sup> 5,986	1,037	3,794	6,508		1909	11	435	309	178	447	922
	1904	74	1,775	1,122	971	2,888	5,361		1904	9	303	175	105	266	598
Leather, tanned, cur- ried, and finished.	1914	10	227	700	156	2,042	2,573	Patent medicines and compounds and drug- gists' preparations.	1914	<sup>5</sup> 212	1,090	867	532	2,926	9,010
	1909	9	220	519	146	1,599	2,035		1909	185	980	908	415	2,536	7,639
	1904	9	217	546	131	734	1,128		1904	125	924	449	353	1,985	5,512
Lime.....	1914	19	531	1,593	277	409	890	Photo-engraving.....	1914	17	224	90	233	61	529
	1909	31	692	1,314	317	461	1,031		1909	18	187	80	165	82	450
	1904	23	493	615	221	319	792		1904	10	113	63	83	34	205
Liquors, distilled.....	1914	11	22	369	12	75	427	Pipes, tobacco.....	1914	7	301	332	109	229	433
	1909	28	34	644	14	101	613		1909	7	307	243	107	169	396
	1904	34	49	654	25	61	206		1904	6	285	191	83	145	329
Liquors, malt.....	1914	32	5,947	31,164	4,852	7,373	31,801	Printing and publishing	1914	<sup>6</sup> 1,353	10,571	14,330	7,391	9,671	33,173
	1909	31	5,646	30,436	3,908	7,568	27,447		1909	1,322	10,790	10,472	6,610	8,627	29,651
	1904	50	5,568	18,759	3,408	6,252	24,154		1904	1,253	9,757	8,384	5,330	6,801	24,412
Lumber and timber products.	1914	<sup>8</sup> 956	9,196	44,098	4,749	8,413	18,397	Show cases.....	1914	8	230	351	146	259	574
	1909	1,098	13,522	49,506	5,897	10,614	23,261		1909	8	209	100	137	170	433
	1904	495	12,064	33,047	5,542	6,417	18,349		1904	8	260	234	151	207	546
Marble and stone work..	1914	175	905	4,018	647	1,281	2,716	Slaughtering and meat packing.	1914	<sup>7</sup> 40	5,200	15,660	3,462	84,684	92,060
	1909	169	1,342	4,306	989	1,447	3,441		1909	45	4,674	11,735	2,673	72,198	79,581
	1904	73	882	2,216	580	904	2,305		1904	38	4,236	7,685	2,381	54,099	60,110
Mattresses and spring beds.	1914	33	296	406	162	460	882	Soap.....	1914	9	521	1,358	279	2,811	4,920
	1909	33	345	310	187	457	959		1909	10	554	954	272	3,055	4,719
	1904	28	480	437	270	564	1,140		1904	10	548	745	237	1,871	3,113
Millinery and lace goods	1914	33	908	241	367	1,064	2,163	Tobacco manufactures..	1914	431	3,907	1,859	1,990	14,061	33,381
	1909	35	934	94	277	885	1,647		1909	477	4,453	2,034	2,235	16,546	30,951
	1904	10	305	42	99	238	448		1904	561	5,259	3,670	2,805	11,962	30,884
Mineral and soda waters	1914	195	556	845	298	656	1,623	Wirework, including wire rope and cable.	1914	21	741	1,609	374	1,332	3,484
	1909	176	463	749	221	420	1,292		1909	14	710	902	379	1,734	3,396
	1904	132	485	475	242	371	1,166		1904	23	584	894	291	1,234	2,336
Paint and varnish.....	1914	34	599	2,775	393	3,750	5,792	All other industries.....	1914	861	22,611	71,266	13,684	69,116	101,872
	1909	32	685	2,706	366	4,698	6,828		1909	786	20,061	44,762	11,295	52,448	80,538
	1904	30	604	2,028	313	4,737	6,400		1904	642	19,719	39,372	10,640	40,311	67,967

## CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

<b>KANSAS CITY—All industries.</b>	1914	1,052	16,252	35,706	\$10,504	\$31,981	\$60,953	<b>KANSAS CITY—Con. Furniture and refriger- ators.</b>	1914	26	266	591	\$188	\$339	\$757
	1909	902	14,643	29,208	8,526	30,118	54,705		1909	20	293	602	189	406	835
	1904	612	11,039	.....	5,920	19,525	35,573		1904	17	239	.....	128	285	540
Bread and other bakery products.	1914	141	1,908	1,973	969	3,442	7,093	Leather goods.....	1914	1 18	204	165	123	512	788
	1909	107	1,375	847	726	2,646	5,617		1909	21	406	204	264	1,017	1,568
	1904	75	1,056	.....	458	1,950	3,462		1904	13	275	.....	171	443	857
Brick, tile, pottery, and other clay products.	1914	8	343	1,377	206	192	538	Lumber and timber products.	1914	3 26	693	2,117	474	1,485	2,359
	1909	9 5	353	480	161	121	389		1909	26	802	1,866	519	2,141	3,398
	1904	9 5	165	.....	84	81	253		1904	9 13	478	.....	317	677	1,274
Carriages and wagons and materials.	1914	28	197	330	138	177	442	Marble and stone work.	1914	13	139	533	119	171	410
	1909	11	130	252	78	128	270		1909	12	201	379	156	255	506
	1904	16	74	.....	42	63	161		1904	8	129	.....	106	111	303
Cars and general shop construction and re- pairs by steam-rail- road companies.	1914	4	1,104	1,440	844	580	1,504	Mattresses and spring beds.	1914	9	71	86	36	124	251
	1909	4	662	415	508	315	883		1909	7	74	136	44	133	237
	1904	5	796	.....	552	481	1,073		1904	5	65	.....	30	79	149
Clothing, men's, includ- ing shirts.	1914	16	617	189	254	729	1,195	Models and patterns, not including paper patterns.	1914	7	20	51	14	7	35
	1909	15	819	199	302	631	1,129		1909	5	14	29	11	5	26
	1904	9	730	.....	205	562	959		1904	5	8	.....	7	3	20
Coffee and spice, roast- ing and grinding.	1914	10	100	680	50	1,225	1,648	Patent medicines and compounds and drug- gists' preparations.	1914	6 46	88	83	56	244	781
	1909	10	107	350	51	1,393	1,879		1909	46	70	68	26	162	467
	1904	3	47	.....	17	139	219		1904	12 16	38	.....	16	51	178
Confectionery.....	1914	19	200	254	81	440	1,013	Printing and publishing	1914	6 186	2,450	4,803	1,870	3,030	9,263
	1909	10	214	242	76	512	990		1909	179	2,192	2,105	1,405	2,352	7,548
	1904	8	380	.....	118	594	926		1904	129	1,558	.....	999	1,418	4,505
Copper, tin, and sheet- iron products.	1914	10 55	513	363	407	801	1,611	Surgical appliances and artificial limbs.	1914	8	47	27	37	18	140
	1909	59	553	407	349	828	1,575		1909	7	14	10	9	12	79
	1904	9 17	366	.....	202	525	973		1904	9 3	8	.....	6	3	25
Flour-mill and gristmill products.	1914	6	119	1,837	79	3,215	3,529	All other industries.....	1914	346	5,824	16,219	3,594	13,738	23,969
	1909	8	209	3,210	93	4,102	4,507		1909	292	5,510	16,184	3,038	12,134	20,916
	1904	10	209	.....	124	5,072	5,516		1904	218	3,830	.....	2,010	6,494	12,923

1 Includes "saddlery and harness" and "trunks and valises."

2 Apparently an error in figures; should be 1,269.

3 Includes "boxes, wooden packing;" "lumber, planing-mill products;" and "window and door screens and weather strips."

4 Includes "envelopes."

5 Includes "perfumery and cosmetics."

6 Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithographing."

7 Includes "sausage."

8 Figures do not agree with those published because certain establishments revised their reports.

9 Excludes statistics for one establishment, to avoid disclosure of individual operations.

10 Includes "tinware, not elsewhere specified."

11 Includes "automobile repairing;" "engines, steam, gas, and water;" "gas machines and gas and water meters;" hardware;" "plumbers' supplies, not elsewhere speci-  
fied;" "steam fittings and steam and hot-water heating apparatus;" "structural ironwork, not made in steel works or rolling mills."

12 Excludes statistics for two establishments, to avoid disclosure of individual operations.



## MANUFACTURES—MISSOURI.

TABLE 36.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
ST. JOSEPH—All industries.	1914	267	4,914	9,109	\$2,675	\$10,607	\$17,068	ST. LOUIS—Contd.	1914	19	3,212	6,789	\$1,776	\$1,117	\$4,060
	1909	251	5,390	7,737	2,710	11,054	17,626	Brick, tile, pottery, and	1909	20	3,822	6,862	1,948	1,252	4,881
	1904	219	4,663	.....	2,072	6,820	11,574	other clay products.	1904	27	3,001	.....	1,554	931	3,574
Boots and shoes.....	1914	3	264	266	161	610	912	Carriages and wagons	1914	88	1,678	2,082	1,133	3,114	5,117
	1909	5	410	213	201	724	1,025	and materials.	1909	77	2,254	3,144	1,242	3,838	6,328
	1904	3	168	.....	65	256	350		1904	98	2,215	.....	1,266	3,402	5,759
Bread and other bakery products.	1914	34	108	121	75	257	415	Cars and general shop	1914	8	1,668	1,390	1,204	835	2,235
	1909	43	548	321	261	1,367	2,174	construction and re- pairs by steam-rail- road companies.	1909	5	1,677	1,485	879	765	1,742
	1904	36	499	.....	182	1,343	2,054		1904	4	1,260	.....	844	817	1,725
Carriages and wagons and materials.	1914	10	40	47	35	34	107	Clothing, men's, includ- ing shirts.	1914	54	5,001	1,770	2,184	5,861	10,273
	1909	9	49	41	33	40	108		1909	50	4,751	879	1,966	5,382	9,687
	1904	8	67	.....	34	30	103		1904	53	3,942	.....	1,449	3,436	6,850
Clothing, men's, in- cluding shirts.	1914	8	1,112	362	430	1,290	2,098	Clothing, women's.....	1914	66	2,271	581	1,062	2,947	5,353
	1909	9	1,326	364	499	1,453	2,403		1909	58	2,439	438	1,021	2,902	4,886
	1904	2	1,151	.....	371	1,081	1,557		1904	46	1,704	.....	623	1,675	3,075
Confectionery.....	1914	7	715	809	299	1,276	2,184	Coffee and spice, roast- ing and grinding.	1914	20	499	1,808	274	9,163	11,072
	1909	6	313	162	142	1,004	1,424		1909	23	570	1,886	268	7,217	9,514
	1904	4	188	.....	66	234	437		1904	19	484	.....	240	4,738	6,725
Cooperage, hogsheads and barrels.	1914	3	22	50	11	32	60	Coffins, burial cases, and undertakers' goods.	1914	5	413	755	252	533	959
	1909	3	28	24	17	46	71		1909	6	490	608	268	665	1,371
	1904	3	26	.....	15	31	53		1904	6	470	.....	238	627	1,204
Copper, tin, and sheet- iron work.	1914	12	53	5	39	60	125	Confectionery.....	1914	48	1,472	1,320	520	2,147	3,500
	1909	12	54	.....	45	76	146		1909	25	1,222	823	512	2,175	3,848
	1904	2	47	.....	39	50	124		1904	18	1,123	.....	416	1,691	3,052
Flour-mill and grist- mill products.	1914	9	130	1,324	76	2,485	2,714	Cooperage and wooden goods, not elsewhere specified.	1914	18	604	1,227	325	903	1,447
	1909	7	94	1,277	44	1,888	1,994		1909	22	958	1,942	493	1,562	2,592
	1904	5	39	.....	22	593	683		1904	20	914	.....	428	1,195	1,946
Foundry and machine- shop products.	1914	16	186	289	107	109	326	Copper, tin, and sheet- iron products.	1914	95	1,818	1,740	1,043	3,444	5,946
	1909	15	233	306	128	164	430		1909	100	1,833	976	978	2,978	5,000
	1904	17	104	.....	58	49	150		1904	63	1,721	.....	813	2,630	4,432
Leather goods.....	1914	13	177	131	120	569	779	Cutlery and tools, not elsewhere specified.	1914	12	155	349	95	142	306
	1909	10	238	110	152	585	819		1909	13	200	472	128	234	440
	1904	15	184	.....	103	326	525		1904	11	159	.....	97	175	337
Marble and stone work.	1914	6	12	74	8	16	37	Electrical machinery, apparatus, and sup- plies.	1914	12	1,420	1,400	828	1,229	3,275
	1909	4	12	15	10	18	39		1909	16	699	650	380	636	2,081
	1904	4	30	.....	23	37	81		1904	16	784	.....	407	598	1,713
Mattresses and spring beds.	1914	3	13	31	7	16	38	Electroplating.....	1914	8	65	443	45	26	108
	1909	4	16	29	8	17	35		1909	12	66	115	45	21	103
	1904	3	11	.....	4	10	19		1904	9	63	.....	41	19	94
Patent medicines and compounds and drug- gists' preparations.	1914	8	18	9	7	38	80	Enameling and japan- ning.	1914	3	39	11	29	10	62
	1909	7	8	6	3	9	24		1909	3	28	.....	17	5	31
	1904	3	2	.....	1	3	17		1904	3	61	.....	25	43	77
Printing and publishing	1914	34	416	352	258	250	1,156	Food preparations, not elsewhere specified.	1914	23	390	1,083	176	4,268	5,130
	1909	30	368	278	226	273	1,025		1909	21	382	946	170	3,499	4,455
	1904	25	359	.....	182	215	745		1904	24	490	.....	153	1,632	2,409
All other industries.....	1914	101	1,648	5,239	1,042	3,565	6,037	Foundry and machine- shop products.	1914	169	5,251	11,257	3,639	6,602	13,785
	1909	97	1,693	4,501	941	3,440	6,909		1909	160	5,298	8,692	3,518	6,682	14,591
	1904	99	1,788	.....	907	2,582	4,676		1904	143	5,677	.....	3,412	4,828	11,573
ST. LOUIS—All industries.	1914	2,787	85,058	169,982	51,150	203,806	360,480	Furniture and refrigera- tors.	1914	62	2,772	5,030	1,666	2,703	6,020
	1909	2,667	87,371	148,095	48,535	188,189	328,495		1909	65	2,882	5,163	1,620	2,735	6,111
	1904	2,482	82,698	.....	42,642	137,740	267,307		1904	51	2,364	.....	1,213	1,589	4,057
Automobiles, including bodies and parts.	1914	16	434	550	327	1,030	1,882	Gas and electric fixtures and lamps and reflect- ors.	1914	6	217	360	132	194	577
	1909	11	282	139	197	727	1,302		1909	7	202	185	126	285	547
	1904	3	21	.....	16	31	63		1904	9	181	.....	122	185	448
Blackening and cleansing and polishing prepara- tions.	1914	23	59	275	31	268	517	Hats and caps, other than felt, straw, and wool.	1914	7	139	16	90	254	387
	1909	23	97	150	53	291	571		1909	9	124	31	78	159	307
	1904	8	27	.....	12	77	147		1904	6	136	.....	69	161	275
Boots and shoes, in- cluding cut stock and findings.	1914	27	8,729	5,602	4,453	22,630	31,049	Ice, manufactured.....	1914	7	319	8,700	272	418	1,129
	1909	33	12,138	7,547	6,169	23,735	33,970		1909	9	201	8,105	151	291	731
	1904	22	9,331	.....	3,998	12,233	19,662		1904	9	167	.....	124	186	516
Boxes, fancy and paper.	1914	23	786	542	349	569	1,256	Jewelry.....	1914	13	248	111	195	236	655
	1909	19	790	493	286	464	960		1909	8	224	117	153	228	533
	1904	12	655	.....	187	285	604		1904	10	209	.....	165	196	484
Brass and bronze prod- ucts.	1914	11	349	445	237	2,399	2,937	Leather goods.....	1914	39	847	524	536	1,531	3,177
	1909	11	269	385	180	1,632	2,165		1909	32	960	693	515	1,629	3,108
	1904	10	178	.....	111	1,161	1,457		1904	36	1,121	.....	593	1,776	3,265
Bread and other bakery products.	1914	470	2,483	2,153	1,422	4,880	9,454	Liquors, malt.....	1914	12	4,941	25,210	4,107	5,649	26,829
	1909	448	2,264	1,390	1,223	4,765	8,624		1909	10	4,823	24,590	3,339	6,474	23,147
	1904	311	1,874	.....	1,013	3,385	6,098		1904	28	4,947	.....	2,998	5,445	20,930

1 Excludes statistics for two establishments in St. Louis.

<sup>1</sup> Excludes statistics for two establishments, to avoid disclosure of individual operations.

<sup>2</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>3</sup> Includes "gas machines and gas and water meters" and "structural ironwork, not made in steel works or rolling mills."

<sup>4</sup> Includes "saddlery and harness" and "trunks and valises."

<sup>5</sup> Figures do not agree with those published because certain establishments revised their reports.

<sup>6</sup> Includes "stamped ware" and "tinware."

<sup>7</sup> Includes "automobile repairing"; "bells"; "engines, steam, gas, and water"; "gas machines and gas and water meters"; "hardware"; "hardware, saddlery"; "plumbers' supplies"; "steam fittings and steam and hot-water heating apparatus"; and "structural ironwork, not made in steel works or rolling mills."

# MANUFACTURES—MISSOURI.

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TABLE 36.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904—Continued.

INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY AND CITY.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.															
ST. LOUIS—Contd.								ST. LOUIS—Contd.							
Lumber and timber products.	1914	1 75	2,305	10,456	\$1,341	\$2,610	\$5,149	Pickles, preserves, and sauces.	1914	5	55	30	\$29	\$315	\$432
	1909	71	2,812	8,608	1,669	3,884	7,367		1909	9	191	161	75	628	962
	1904	63	2,949	.....	1,460	2,473	4,409		1904	7	164	.....	64	397	631
Marble and stone work..	1914	37	329	1,155	280	626	1,180	Printing and publishing	1914	<sup>3</sup> 373	5,440	6,740	4,054	5,184	18,026
	1909	39	557	1,073	468	723	1,580		1909	347	5,708	<sup>4</sup> 5,441	3,824	5,118	17,164
	1904	25	381	.....	265	575	1,305		1904	362	5,839	.....	3,402	4,543	16,366
Mattresses and spring beds.	1914	15	140	234	89	238	409	Slaughtering and meat packing.	1914	<sup>5</sup> 23	2,066	5,938	1,366	33,788	36,634
	1909	14	179	120	106	204	462		1909	24	1,469	5,515	900	24,055	26,601
	1904	14	344	.....	216	398	815		1904	<sup>6</sup> 20	1,237	.....	753	16,043	17,485
Millinery and lace goods	1914	20	618	223	267	792	1,626	Stereotyping and elec- trotyping.	1914	4	93	197	67	35	166
	1909	18	514	64	183	549	1,045		1909	4	94	146	72	51	194
	1904	9	293	.....	96	235	440		1904	3	54	.....	36	16	91
Models and patterns, not including paper patterns.	1914	16	77	75	51	36	157	Stoves and furnaces, in- cluding gas and oil stoves.	1914	11	1,916	3,029	1,336	2,719	7,479
	1909	15	106	72	78	46	211		1909	13	1,673	1,826	1,199	2,458	5,923
	1904	16	93	.....	57	33	156		1904	<sup>6</sup> 14	1,875	.....	1,316	1,943	5,523
Paint and varnish.....	1914	26	515	2,363	337	3,217	5,003	Wirework, including wire rope and cable.	1914	10	712	1,521	351	1,180	3,265
	1909	23	598	2,139	315	3,738	5,564		1909	9	683	853	365	1,697	3,233
	1904	25	552	.....	283	4,439	5,909		1904	11	545	.....	276	1,194	2,245
Patent medicines and compounds and druggists' preparations.	1914	<sup>2</sup> 125	900	674	421	2,480	7,769	All other industries.....	1914	671	21,365	53,755	12,524	65,443	113,345
	1909	89	862	800	364	2,281	6,846		1909	675	19,866	42,325	10,901	59,470	97,289
	1904	95	861	.....	328	1,907	5,182		1904	737	22,166	.....	11,410	48,378	94,668
Photo-engraving .....	1914	12	158	60	145	41	363								
	1909	11	114	46	93	59	298								
	1904	6	66	.....	53	19	131								

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

HANNIBAL.....	1914	66	2,366	3,530	\$1,329	\$3,795	\$6,215	SEDALIA.....	1914	69	903	1,778	\$488	\$1,951	\$2,922
	1909	66	2,445	3,412	1,284	4,316	6,195		1909	75	935	1,662	461	1,216	2,333
	1904	58	1,811	.....	825	2,156	3,564		1904	50	974	.....	503	825	1,692
JEFFERSON CITY.....	1914	50	1,401	1,826	603	4,743	8,087	SPRINGFIELD.....	1914	109	2,009	4,646	1,243	3,766	6,193
	1909	35	<sup>7</sup> 651	1,166	<sup>7</sup> 271	3,652	5,446		1909	108	2,131	3,685	1,280	3,048	5,382
	1904	56	680	.....	386	1,960	3,006		1904	82	2,158	.....	1,128	3,392	5,293
JOPLIN.....	1914	100	1,156	3,774	618	4,120	5,950	WEBB CITY.....	1914	20	136	619	90	488	706
	1909	77	830	3,102	494	2,358	4,136		1909	25	170	511	108	513	777
	1904	56	680	.....	386	1,960	3,006								
MOBERLY.....	1914	30	1,411	1,866	857	1,838	3,137								
	1909	31	999	1,276	538	1,092	1,984								

<sup>1</sup> Includes "boxes, wooden packing"; "lumber, planing-mill products"; and "window and door screens and weather strips."

<sup>2</sup> Includes "perfumery and cosmetics."

<sup>3</sup> Includes "bookbinding and blank-book making"; "engraving, steel and copper-plate, including plate printing"; and "lithographing."

<sup>4</sup> Figures do not agree with those published because certain establishments revised their reports.

<sup>5</sup> Includes "sausage."

<sup>6</sup> Excludes statistics for one establishment, to avoid disclosure of individual operations.

<sup>7</sup> Figures do not agree with those published in 1909, as convicts employed in the penitentiary were included at that census, but have been excluded in order to make the totals comparable with those for 1904 and 1914.

## MANUFACTURES—MISSOURI

TABLE 37.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNINGS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.				
						Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.			
									Maximum month.	Minimum month.								
All industries.....		8,386	188,266	7,698	7,111	16,483	4,792	152,182	Ap 156,968	De 139,366	(3)	(3)	(3)	(3)	(3)	\$522,548,083		
Agricultural implements.....		18	306	12	22	25	7	240	My 345	No 133	292	287	.....	5	.....	1,347,799		
Artificial limbs.....		12	98	8	9	19	11	51	Oct 53	Ap 49	52	51	1	.....	.....	174,000		
Artificial stone products.....		96	325	125	13	12	1	174	Jy 289	Ja 61	272	272	.....	.....	.....	310,154		
Automobile bodies and parts.....		20	231	16	19	10	9	177	My 196	Ja 148	181	172	9	.....	.....	211,110		
Automobiles.....		5	409	.....	18	54	10	327	My 368	De 210	270	267	3	.....	.....	1,600,988		
Automobile repairing.....		19	91	20	1	1	2	67	Jy 79	Ja 58	67	66	.....	1	.....	83,916		
Awnings, tents, and sails.....		21	566	13	41	53	31	428	My 575	De 305	354	155	197	2	.....	953,300		
Baking powders.....		4	47	2	7	6	2	30	My 33	De 27	28	15	13	.....	.....	47,696		
Baskets, and rattan and willow ware.....		5	48	4	3	1	3	37	My 47	Oct 25	35	34	1	.....	.....	38,700		
Belting, leather.....		5	84	2	10	18	10	44	My 52	De 41	43	42	.....	1	.....	523,742		
Blacking, stains, and dressings.....		14	85	8	14	17	7	39	My 43	No 33	38	18	17	.....	3	170,341		
Bookbinding and blank-book making.....		35	976	26	39	80	45	786	Fe 915	No 676	690	346	322	8	14	1,369,686		
Boots and shoes, including moccasins.....		49	15,225	3	272	1,426	355	13,169	Ap 14,887	No 9,987	12,749	7,803	4,773	96	77	27,701,768		
Boxes, cigar.....		4	87	1	8	3	4	71	Ja 82	De 66	66	22	41	.....	3	67,321		
Boxes, fancy and paper.....		32	1,240	8	64	50	26	1,092	Mh 1,163	Oct 1,026	1,076	313	677	6	80	2,320,281		
Boxes, wooden packing.....		25	1,161	11	50	36	13	1,051	Jy 1,202	De 930	1,032	943	17	59	13	2,478,642		
Brass and bronze products.....		18	471	15	30	39	4	383	Au 413	Fe 356	380	378	.....	2	.....	1,701,729		
Bread and other bakery products.....		1,043	7,464	1,155	128	759	153	5,269	Oct 5,565	My 5,056	5,559	3,632	1,853	21	53	15,157,071		
Brick and tile, terra-cotta, and fire-clay products.....		90	5,673	62	143	234	46	5,188	.....	.....	5,437	5,398	10	29	.....	16,331,153		
Building brick.....		57	2,179	33	68	64	10	2,004	My 2,571	Fe 1,087	2,386	2,365	.....	2	19	6,554,386		
Sewer pipe and drain tile.....		11	1,090	15	17	60	11	987	Jy 1,089	Fe 833	1,072	1,072	.....	.....	.....	2,816,281		
Fire brick, stove lining.....		11	1,514	4	37	76	17	1,380	Ja 1,584	De 1,174	1,177	1,176	.....	1	.....	5,987,972		
Tile and architectural and fire-proofing terra cotta.....		11	890	10	21	34	8	817	My 885	De 645	802	785	8	9	.....	972,514		
Brooms.....		49	327	49	15	30	10	223	De 251	Ap 202	248	218	25	5	.....	483,576		
Brushes.....		10	60	7	6	3	1	43	.....	.....	44	42	1	1	.....	125,574		
Toilet, paint, and varnish.....		3	38	1	6	3	1	27	My 31	Ja 25	28	27	1	.....	.....	87,059		
All other.....		7	22	6	.....	.....	.....	16	(C) 16	(C) 16	16	15	.....	1	.....	38,515		
Butter.....		54	552	45	44	60	42	361	Au 437	Fe 286	364	293	71	.....	.....	1,163,107		
Buttons.....		9	308	8	9	5	4	282	Mh 356	Jy 140	335	247	86	2	.....	264,833		
Canning and preserving, fruits and vegetables.....		142	990	173	23	12	2	780	.....	.....	3,531	1,007	2,274	62	128	456,830		
Canned vegetables.....		138	972	169	22	12	2	767	Se 3,531	Ja 0	3,467	1,042	2,236	61	128	445,480		
Canned and dried fruit.....		4	18	4	1	.....	.....	13	Se 66	Ja 0	64	25	38	1	.....	11,350		
Carpets, rag.....		10	34	12	1	.....	.....	21	Oct 32	Ja 13	27	20	6	1	.....	25,225		
Carriage and wagon materials.....		26	617	13	31	13	10	550	Ap 642	Oct 467	555	534	19	2	.....	1,248,413		
Carriages, wagons, and repairs.....		197	2,478	223	91	115	39	2,010	.....	.....	2,135	2,110	21	4	.....	5,274,707		
Carriages and wagons.....		166	2,325	193	81	111	39	1,901	My 2,275	De 1,466	2,031	2,008	21	2	.....	5,127,476		
Repair work only.....		31	153	30	10	4	.....	109	Au 119	Fe 98	104	102	.....	2	.....	147,231		
Cars and general shop construction and repairs by electric-railroad companies.....		8	1,216	.....	20	27	1	1,168	Mh 1,195	No 1,133	1,163	1,162	1	.....	.....	2,423,041		
Cars and general shop construction and repairs by steam-railroad companies.....		39	10,273	.....	251	281	20	9,721	Jy 10,178	Fe 9,405	9,479	9,475	4	.....	.....	11,260,489		
Charcoal, not including production in lumber and wood distillation industries.....		7	73	5	7	.....	.....	61	De 65	Ap 58	64	64	.....	.....	.....	306,880		
Chemicals.....		22	1,257	7	66	291	51	842	Se 929	Fe 782	836	724	99	5	8	6,313,836		
Cleansing and polishing preparations.....		23	115	10	21	30	12	42	.....	.....	41	29	12	.....	.....	436,601		
Cleansing preparations.....		15	75	8	12	19	5	31	Ap 41	Oct 24	29	21	8	.....	.....	350,145		
Polishing preparations.....		8	40	2	9	11	7	11	De 42	Ja 10	12	8	4	.....	.....	86,456		
Clothing, men's.....		71	6,434	40	185	516	100	5,593	.....	.....	5,956	1,716	4,176	1	63	7,251,408		
Men's and youths'.....		68	6,359	37	178	504	96	5,544	Ja 5,952	Oct 5,038	5,902	1,680	4,158	1	63	7,137,422		
Boys'.....		3	75	3	7	12	4	49	Mh 56	Au 42	54	36	18	.....	.....	113,086		
Clothing, women's.....		74	2,699	54	115	117	58	2,355	.....	.....	2,431	488	1,885	1	57	2,087,188		
Suits, skirts, and cloaks.....		37	1,149	22	67	66	28	966	Se 1,114	De 757	962	381	572	.....	9	1,012,019		
Shirt waists and dresses, except house dresses.....		14	396	13	15	23	8	337	Se 441	Jy 272	360	23	326	.....	11	346,021		
Undergarments and petticoats.....		10	848	10	21	17	11	789	Ja 914	No 690	858	68	757	1	32	567,742		
Wrappers and house dresses.....		7	274	4	11	11	11	287	Mh 292	No 150	222	15	202	.....	5	141,900		
All other.....		6	32	5	1	.....	.....	26	My 31	Au 17	29	1	28	.....	.....	18,606		
Coffee and spice, roasting and grinding goods.....		37	1,371	15	89	516	95	656	Ja 678	My 630	655	405	246	1	3	6,151,673		
Coffins, burial cases, and undertakers' goods.....		8	488	1	13	34	4	436	Fe 452	De 419	419	330	87	2	.....	1,279,307		
Confectionery and ice cream.....		154	3,640	163	109	423	91	2,854	.....	.....	2,914	1,293	1,591	6	24	6,738,248		
Confectionery, including chewing gum.....		100	3,140	104	65	384	67	2,520	Oct 3,020	Ap 2,299	2,576	1,979	1,572	1	24	5,346,505		
Ice cream.....		54	500	59	44	39	24	334	Jy 461	Ja 228	338	314	19	5	.....	1,391,743		
Cooperage.....		36	936	25	38	19	6	848	.....	.....	870	848	.....	22	.....	1,719,138		
Hogsheads and barrels.....		31	695	24	32	12	6	621	Se 748	Ja 514	635	614	.....	21	.....	1,392,828		
All other.....		5	241	1	6	7	.....	227	Oct 237	My 213	235	234	.....	1	.....	326,305		
Copper, tin, and sheet-iron work.....		180	1,426	178	80	93	23	1,062	Jy 1,212	Ja 875	1,040	1,028	3	9	.....	2,245,216		
Dairymen's and poultrymen's supplies.....		5	52	2	4	.....	6	40	Fe 48	Oct 31	44	38	2	4	.....	124,454		
Dental goods.....		7	41	2	7	.....	1	31	Se 34	Ja 30	32	24	1	.....	.....	159,875		
Owned power only.....																		
Includes rented power.....																		

1 Owned power only.

2 Includes rented power, other than electric.

3 No figures given for reasons stated under "Explanation of terms."

# MANUFACTURES—MISSOURI.

31

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal-revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$15,609,439	\$21,628,017	\$80,197,477	\$2,602,416	\$4,149,957	\$13,873,612	\$376,546,681	\$12,168,178	\$637,952,128	\$249,237,269	391,385	283,490	20,330	3,203	84,362	97,619	1
38,425	31,253	142,233	14,710	3,160	4,652	259,050	11,027	569,904	299,827	742	490	134	.....	118	80	2
18,473	18,661	43,341	.....	9,322	1,487	17,107	1,642	176,721	157,972	40	.....	.....	.....	40	.....	3
17,469	11,414	94,173	.....	6,105	1,909	153,254	1,394	362,516	207,808	237	38	153	.....	66	.....	4
29,036	14,476	142,784	50	22,396	925	162,440	5,578	420,080	252,062	200	150	17	.....	93	.....	5
53,290	97,384	246,058	.....	7,363	6,745	1,027,849	10,957	1,762,831	724,025	366	.....	.....	.....	366	.....	6
1,500	1,780	42,396	.....	13,963	636	60,169	3,161	172,256	108,926	85	.....	38	.....	47	.....	7
60,565	63,728	206,138	80	37,149	5,477	985,636	5,622	1,551,557	560,299	203	4	.....	.....	199	30	8
12,720	13,988	10,351	2,300	1,080	660	89,277	789	164,015	73,949	35	.....	20	.....	15	6	9
3,650	2,123	15,096	.....	2,201	347	17,488	194	53,510	35,828	13	.....	.....	.....	18	.....	10
29,070	27,051	33,515	.....	6,144	2,651	359,774	4,060	503,411	139,577	156	.....	.....	.....	156	.....	11
20,645	22,484	19,647	.....	5,558	862	216,453	2,149	365,225	146,623	230	130	3	.....	97	.....	12
77,048	86,995	462,103	3,785	33,562	7,223	440,355	11,891	1,556,954	1,104,708	413	.....	.....	.....	413	.....	13
660,638	2,203,822	6,112,990	77,978	53,738	138,983	25,800,915	145,523	40,311,210	14,364,772	8,911	6,960	.....	.....	1,951	3,933	14
9,877	4,896	27,223	.....	3,191	174	72,700	2,350	144,938	60,888	45	10	.....	.....	35	.....	15
109,548	70,288	454,570	641	59,556	7,049	724,069	23,363	1,636,088	888,656	727	125	20	.....	582	125	16
105,489	46,796	481,001	3,744	41,984	18,070	1,501,131	22,927	2,635,411	1,111,351	4,884	3,645	80	.....	1,159	504	17
82,973	55,779	264,214	.....	7,134	10,848	2,404,432	34,010	3,047,306	608,864	523	160	65	.....	298	80	18
260,783	988,502	2,875,447	5,635	363,070	98,545	9,799,988	356,818	19,940,499	9,783,693	5,000	2,391	228	4	2,377	1,755	19
356,378	266,033	2,770,580	9,339	21,181	95,212	962,739	1,032,545	6,509,161	4,513,877	14,747	13,003	393	.....	1,351	1,625	20
135,239	45,889	1,080,026	5,692	8,733	43,182	343,134	457,957	2,513,688	1,712,597	6,391	4,914	334	.....	1,143	300	21
50,636	96,692	547,406	.....	3,000	16,787	175,647	219,484	1,341,111	945,980	2,815	2,778	12	.....	25	155	22
110,722	87,691	734,932	.....	5,914	23,416	335,360	259,074	1,820,484	1,226,050	4,175	4,141	.....	.....	34	1,116	23
59,781	35,761	402,216	3,647	3,534	6,827	108,598	96,030	833,878	629,250	1,366	1,170	47	.....	149	48	24
22,266	25,402	112,391	20,094	7,189	2,550	319,485	3,451	666,486	343,550	184	45	46	.....	93	.....	25
6,960	3,288	24,305	.....	2,116	542	49,010	705	105,044	55,269	20	.....	.....	.....	20	.....	26
6,960	3,288	14,941	.....	1,200	305	20,215	478	62,019	32,026	14	.....	.....	.....	14	.....	27
93,522	80,399	201,804	2,939	916	237	19,795	287	42,425	22,343	6	.....	.....	.....	6	.....	28
8,822	3,267	86,945	350	22,461	7,596	4,313,925	53,386	5,167,343	800,031	1,556	789	6	.....	761	25	29
6,559	1,840	105,874	849	1,302	1,136	104,701	3,602	256,708	148,405	295	269	6	.....	20	.....	30
6,529	1,840	104,299	849	2,442	1,615	394,646	8,111	609,725	206,968	965	823	128	.....	14	.....	31
30	.....	1,575	.....	70	1,545	390,728	7,731	601,698	203,239	857	721	122	.....	14	.....	32
976	.....	9,434	140	1,420	70	3,918	380	8,027	3,729	108	102	6	.....	.....	.....	33
51,367	20,502	268,432	2,555	15,495	4,585	535,450	4,438	1,136,573	596,685	2,098	1,983	27	.....	33	.....	34
185,547	167,768	1,367,106	10,137	103,372	36,300	3,244,263	47,408	5,714,382	2,422,711	2,430	1,035	290	.....	1,105	80	36
172,577	163,463	1,281,686	10,037	88,788	35,171	3,162,057	42,745	5,454,177	2,249,375	2,259	1,035	237	.....	987	80	37
12,970	4,305	85,420	100	14,584	1,129	82,206	4,663	260,205	173,336	171	.....	53	.....	118	.....	38
28,395	23,450	807,199	.....	13,695	814,678	19,754	1,710,323	875,891	.....	812	.....	.....	.....	812	1,541	39
356,189	239,635	6,838,843	3,941	4,400	51,683	5,025,362	346,549	12,847,379	7,475,468	9,031	7,955	33	.....	1,043	6,655	40
3,500	.....	27,687	.....	60	652	391	113,306	178,806	65,109	.....	.....	.....	.....	.....	.....	41
219,017	366,665	497,837	.....	20,761	42,881	4,079,515	84,355	6,936,122	2,772,252	1,764	1,235	.....	.....	529	670	42
30,752	35,704	20,046	14,729	6,780	771	99,390	2,623	295,129	193,116	89	.....	.....	.....	89	.....	43
18,150	25,664	14,732	14,129	4,301	455	74,662	2,195	197,578	120,721	71	.....	.....	.....	71	.....	44
12,602	10,040	5,314	600	2,479	316	74,728	428	97,551	72,396	18	.....	.....	.....	18	.....	45
343,884	676,751	2,222,750	217,880	143,989	34,799	7,672,405	40,552	13,434,374	5,771,417	1,541	430	120	6	985	89	46
332,834	661,126	2,201,522	203,388	139,329	34,478	7,574,544	39,547	13,251,600	5,637,509	1,532	430	120	6	976	89	47
11,050	15,625	11,228	14,492	4,660	321	97,861	1,005	232,774	133,908	9	.....	.....	.....	9	.....	48
220,378	164,569	1,083,312	1,832	101,060	7,593	3,014,298	19,855	5,517,015	2,482,862	602	100	6	.....	496	.....	49
129,008	98,222	557,241	150	55,844	4,226	1,285,513	9,253	2,649,204	1,354,438	236	.....	.....	.....	236	.....	50
25,770	28,250	146,680	1,278	12,612	794	468,700	3,436	791,968	319,832	64	.....	4	.....	60	.....	51
47,228	21,949	285,791	354	22,886	2,040	986,300	5,903	1,530,399	538,196	221	100	.....	.....	121	.....	52
17,722	16,148	94,679	.....	8,440	472	360,173	907	508,015	247,535	70	.....	.....	.....	70	.....	53
650	.....	9,921	50	1,278	61	13,612	356	36,829	22,861	11	.....	2	.....	9	.....	54
265,798	713,172	355,318	2,858	105,661	28,832	10,882,972	65,946	14,299,135	3,350,217	2,760	653	.....	.....	2,107	85	55
35,800	39,726	266,767	2,810	10,179	5,112	580,257	5,607	1,038,877	452,213	792	750	20	.....	22	54	56
243,405	548,982	1,182,867	1,414	140,765	40,146	5,145,289	110,434	9,251,427	3,995,704	3,981	2,214	60	.....	1,707	728	57
169,761	510,426	949,886	244	118,144	30,675	4,025,025	65,652	7,255,593	3,165,516	2,465	1,796	7	.....	662	623	58
73,644	38,556	232,981	1,170	22,621	9,471	1,120,264	45,382	1,995,334	830,188	1,516	418	53	.....	1,045	105	59
73,126	21,114	428,501	.....	14,508	9,201	1,143,977	13,591	1,878,684	721,116	1,669	1,290	40	.....	339	53	60
63,656	14,636	338,331	.....	10,788	7,784	988,669	11,364	1,608,597	608,564	1,334	1,045	40	.....	249	23	61
9,470	6,478	90,120	.....	3,720	1,417	155,038	2,227	270,087	112,552	335	245	.....	.....	90	30	62
176,327	108,048	809,496	5,035	72,330	14,250	2,021,936	20,059	3,841,922	1,789,927	909	.....	270	.....	639	6	63
7,640	3,084	24,507	457	1,230	1,017	110,871	918	204,590	92,301	51	30	.....	.....	17	.....	64
12,900	740	18,732	.....	4,790	217	72,302	894	148,221	74,925	13	.....	.....	.....	13	.....	65

<sup>1</sup> Same number reported for one or more other months.

<sup>2</sup> Same number reported throughout the year.

<sup>3</sup> None reported for one or more other months.

## MANUFACTURES—MISSOURI.

TABLE 37.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.	
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 18.				
						Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.			
									Maximum month.	Minimum month.								
1	Druggists' preparations.....	22	424	16	36	97	25	250	Se	271	Ja	226	261	162	96	2	1	\$894,967
2	Electrical machinery, apparatus, and supplies.....	19	3,131	7	105	314	145	2,560	Ja	2,856	De	2,274	2,456	1,871	555	5	25	6,076,852
3	Electroplating.....	13	112	16	7	1	2	86	Je	92	De	78	77	74	.....	3	.....	61,025
4	Engines, steam, gas, and water.....	6	480	22	107	44	307	5	De	400	Ja	257	409	409	.....	2	.....	2,094,380
5	Engraving and diesinking.....	8	13	8	.....	.....	.....	5	No <sup>3</sup>	6	Jy	3	7	5	.....	.....	.....	2,247
6	Engraving, steel and copper plate, including plate printing.....	13	139	13	15	6	4	101	Ja	109	Au	88	110	66	42	2	.....	60,162
7	Engraving, wood.....	8	29	10	.....	.....	.....	19	De <sup>3</sup>	20	Ap <sup>3</sup>	17	20	19	.....	1	.....	5,591
8	Envelopes.....	7	420	1	24	30	19	346	No	351	Je	336	348	137	201	2	8	1,204,320
9	Fertilizers.....	5	79	2	6	9	2	60	Fe	84	De	29	47	47	.....	.....	.....	348,820
10	Flavoring extracts.....	12	215	7	17	74	17	100	Jy	120	De <sup>3</sup>	81	82	50	32	.....	.....	647,689
11	Flour-mill and gristmill products.....	641	3,466	755	321	233	61	2,096	Se	2,244	My	1,966	2,192	2,172	18	2	.....	10,100,413
12	Food preparations, not elsewhere specified.....	54	990	41	75	187	58	629	.....	.....	.....	.....	716	547	149	13	7	2,193,132
13	Breadstuff preparations, cereals, and table foods.....	7	115	6	8	26	2	73	Se	94	Ap	63	72	48	24	.....	.....	255,369
14	Macaroni, vermicelli, and noodles.....	7	179	8	9	21	4	137	De	151	Ap	126	149	101	34	9	5	323,158
15	All other preparations for human consumption.....	30	331	27	23	24	9	248	Se	292	Ja	194	316	234	76	4	2	533,011
16	For animals and fowls.....	10	365	.....	35	116	43	171	Ap	183	Jy	156	179	164	15	.....	.....	1,081,594
17	Foundry and machine-shop products.....	261	6,926	173	420	573	158	5,602	.....	.....	.....	.....	5,207	5,185	7	15	.....	18,457,096
18	Boiler shops.....	9	289	9	35	16	5	204	Ja	237	No	180	199	199	.....	.....	.....	752,777
19	Foundries.....	27	1,304	9	56	43	10	1,186	Ap	1,276	De	1,013	1,068	1,060	4	4	.....	2,003,855
20	Machine shops.....	225	5,353	155	329	514	143	4,212	Jy	4,499	No	3,670	3,940	3,926	3	11	.....	14,801,064
21	Fur goods.....	7	132	4	6	7	9	106	No	152	Mh	59	149	49	98	1	1	312,683
22	Furnishing goods, men's.....	16	959	1	33	34	18	873	Ja	1,038	Ap	813	919	162	740	5	12	721,470
23	Furniture.....	91	3,738	45	195	232	57	3,209	.....	.....	.....	.....	3,204	3,113	61	27	3	6,687,015
24	Wood, other than rattan and willow.....	56	2,371	25	114	146	30	2,056	Mh	2,234	De	1,902	2,018	1,945	48	22	3	4,497,876
25	Metal.....	7	551	2	39	45	11	454	Ap	495	De	361	461	445	12	4	.....	884,264
26	Store and office fixtures.....	28	816	18	42	41	16	699	Au	848	Fe	581	725	723	1	1	.....	1,304,875
27	Gas and electric fixtures.....	9	221	4	19	28	14	156	.....	.....	.....	.....	168	146	20	2	.....	221,953
28	Gas fixtures.....	4	58	2	5	2	2	47	Ja	57	Je	29	52	33	10	.....	.....	36,320
29	Electric fixtures.....	5	163	2	14	26	12	109	No	121	My <sup>3</sup>	100	116	113	1	2	.....	185,633
30	Gas, illuminating and heating.....	35	2,143	2	75	515	209	1,342	Je	1,454	Mh	1,261	1,346	1,346	.....	.....	.....	44,307,311
31	Gas machines and gas and water meters.....	6	38	5	5	6	1	21	Oc <sup>3</sup>	26	Ja	15	24	23	1	.....	.....	87,125
32	Glass.....	7	2,335	.....	29	50	8	2,248	Ap	2,690	Au	1,839	2,483	2,441	35	7	.....	0,762,406
33	Glass, cutting, staining, and ornamenting.....	18	263	9	13	12	5	224	Ja	243	De	200	209	180	13	7	.....	429,337
34	Hair work.....	3	12	1	.....	.....	1	10	(*)	10	(*)	10	10	2	7	1	.....	6,776
35	Hand stamps.....	11	69	7	10	4	4	44	De <sup>3</sup>	46	My <sup>3</sup>	42	46	41	4	1	.....	43,513
36	Hardware.....	8	244	5	23	3	1	212	Ap <sup>3</sup>	216	De	204	207	162	4	40	1	502,434
37	Hats and caps, other than felt, straw, and wool.....	13	261	14	17	15	3	212	No	224	Ja	192	220	126	93	1	.....	197,097
38	Hats, fur-felt.....	6	121	2	5	.....	.....	114	Jy	119	Fe	107	115	68	46	1	.....	87,868
39	Hats, straw.....	5	235	2	8	52	14	159	Fe	223	Jy	68	179	58	117	3	1	343,402
40	House-furnishing goods, not elsewhere specified.....	9	77	12	6	8	7	44	.....	.....	.....	.....	43	31	12	.....	.....	260,032
41	Feather pillows and beds.....	5	57	4	5	8	7	33	Mh	43	De	24	29	22	7	.....	.....	219,919
42	Mops and dusters.....	4	20	8	1	.....	.....	11	My <sup>3</sup>	15	De	6	14	9	5	.....	.....	40,113
43	Ice, manufactured.....	117	1,364	91	119	66	29	1,059	Au	1,469	Ja	680	1,229	1,220	1	8	.....	9,259,634
44	Ink, writing.....	4	28	6	2	3	5	12	Ap	16	De <sup>3</sup>	10	10	6	4	.....	.....	34,550
45	Iron and steel, steel works and rolling mills.....	3	1,332	.....	14	68	13	1,237	Au	1,527	De	820	1,200	1,199	.....	1	.....	5,280,881
46	Iron and steel, doors and shutters.....	5	94	1	12	9	6	66	Ja	109	De	32	70	70	.....	.....	.....	358,530
47	Jewelry.....	28	594	22	32	35	44	461	Ja	494	Au	426	475	431	34	10	.....	482,806
48	Labels and tags.....	8	167	4	13	6	10	134	No	136	Jy <sup>3</sup>	132	132	83	46	3	.....	250,274
49	Leather goods, not elsewhere specified.....	5	50	3	4	6	6	31	Ja	37	Jy	27	32	27	5	.....	.....	74,350
50	Leather, tanned, curried, and finished.....	10	266	5	18	11	5	227	Ja	252	Jy	215	233	232	.....	1	.....	1,941,847
51	Lime.....	19	584	8	20	19	6	531	Au	626	De	414	505	505	.....	.....	.....	2,537,709
52	Liquors, distilled, whisky and brandy.....	11	39	8	7	1	1	22	My <sup>3</sup>	28	Au	14	35	32	3	.....	.....	235,455
53	Liquors, malt.....	32	6,679	10	135	530	57	5,947	Jy	6,509	De	5,568	5,756	5,467	284	5	.....	67,628,919
54	Lithographing.....	12	357	4	27	50	14	262	Je	274	No	243	267	213	52	2	.....	748,132
55	Looking-glass and picture frames.....	11	42	10	3	1	4	24	No	30	Fe <sup>3</sup>	21	26	22	.....	4	.....	51,299
56	Lumber and timber products.....	796	7,325	991	180	124	23	6,007	Mh	6,281	Fe	5,680	7,488	7,366	35	68	19	9,027,020
57	Lumber, planing-mill products, not including planing mills connected with sawmills.....	122	2,463	70	166	149	39	2,039	Au	2,208	Ja	1,834	2,043	2,009	14	20	.....	5,755,946
58	Marble and stone work, including slate.....	175	1,264	181	86	75	17	905	Ap	951	Fe	787	955	951	2	2	.....	2,760,288
59	Mattresses and spring beds.....	33	375	24	22	24	9	296	Oc	308	Fe	283	308	252	55	1	.....	509,964
60	Millinery and lace goods.....	33	1,064	18	48	45	45	908	.....	.....	.....	.....	850	88	750	3	9	838,382
61	Trimmed hats and hat frames.....	22	865	11	37	31	38	748	Fe	1,288	Je	410	692	64	621	1	6	706,083
62	Embroideries and women's neckwear.....	5	61	4	3	.....	.....	54	Fe	70	Je <sup>3</sup>	45	49	14	33	.....	.....	30,910
63	All other.....	6	138	3	8	14	7	106	No <sup>3</sup>	108	Ja <sup>3</sup>	104	109	10	96	2	1	101,439

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.

# MANUFACTURES—MISSOURI.

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OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.												POWER.						
Salaries and wages.			For contract work.	Rent and taxes.		For materials.		Value of products.	Value added by manufacture.	Primary horsepower.					Electric horsepower generated in establishments reporting.			
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal-revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).				
\$70,426 232,474	\$117,973 495,595	\$124,562 1,536,168	\$150 31,395	\$18,957 32,936	\$4,808 25,487	\$708,773 2,363,862	\$5,181 51,891	\$1,648,228 6,643,210	\$934,274 4,227,457	121 1,918	62 513	6 5		53 1,400	66 1,524	1 2		
9,204 71,424	1,790 149,461	63,004 231,472 2,796		8,150 2,256 1,689	485 5,816 162	25,223 573,172 133	7,628 16,866 6	144,503 1,171,929 12,318	111,652 581,891 12,179	530 1,119		50 858		480 201		3 4 5		
24,839	5,208	63,499	960	10,114	311	37,075	717	183,293	145,501	23				23		6		
58,713 8,934 48,856	45,177 7,145 131,526	11,313 168,638 37,216 59,896	203 500 100	1,950 27,230 4,178 13,920	155 3,999 1,210 2,709	2,245 435,515 179,532 567,123	119 7,229 17,557 4,111	30,725 908,353 345,427 1,008,583	28,361 465,609 148,338 437,349	2 467 865 125		50 245 375		2 172 490 125		7 8 9 10		
455,109 148,334	292,233 243,289	1,122,193 305,283	3,162 1,665	24,705 47,668	103,880 14,212	32,826,061 6,098,153	436,328 49,047	38,686,309 7,793,604	5,423,920 1,646,404	39,003 1,997	29,902 1,244	3,097 211	2,883	3,121 542	441 189	11 12		
14,823	31,367	24,311		6,999	1,961	351,181	5,289	521,903	165,433	278	250			28		13		
7,340 54,250	19,610 30,032	66,692 107,295		6,452 19,737	553 2,662	428,737 908,305	4,744 12,591	574,446 1,362,071	140,965 441,175	286 396	145 49	25 166		116 181		14 15		
71,921	162,280	106,985	1,000	14,480	9,036	4,409,930	26,423	5,335,184	898,831	1,037	800	20		217	189	16		
854,311 55,146 131,998	702,077 22,571 57,493	3,936,582 142,529 784,072	45,847 162 5,133	133,588 2,862 8,576	92,493 5,919 15,683	6,399,671 379,753 1,179,629	391,630 7,522 144,873	14,564,313 640,983 2,566,221	7,773,012 259,713 1,241,719	12,731 435 1,594	5,861 325 840	2,504 12 113	9	4,357 98 641	2,532 285 55	17 18 19		
667,167 22,200 67,679	622,013 10,339 42,303	3,009,981 47,378 250,188	40,552 21,000 25,000	122,150 21,000 26,105	70,891 1,343 2,883	4,840,259 90,690 989,995	239,235 2,256 4,691	11,351,104 231,117 1,573,680	6,271,580 138,171 578,994	10,702 57 122	4,696 12	2,379	9	3,618 57 110	2,192 21 22	20 21 22		
372,616 213,296	297,887 165,818	1,932,759 1,129,715	3,833 500	87,948 48,227	44,082 28,337	3,298,419 1,877,386	56,408 26,273	7,174,010 4,131,050	3,819,183 2,227,391	6,344 4,275	5,062 3,785	179 89		1,103 401	673 289	23 24		
68,368 55,146 31,618	54,564 77,505 33,496	267,012 536,032 106,793	50 3,283	3,178 36,543 13,282	8,954 6,791 1,406	623,368 797,665 169,750	12,787 17,348 8,154	1,208,224 1,834,736 487,102	572,069 1,019,723 309,198	587 1,482 294	450 827 10	12 78 12		125 577 272	264 120	25 26 27		
7,230 24,388	4,382 29,114	27,099 79,694		3,740 9,542	83,249 1,157	38,468 131,282	1,680 6,174	83,295 403,807	42,847 266,351	44 250	10 12			22 250		28 29		
166,818 5,325	491,023 3,246	844,073 21,118	13,495	37,115 2,350	382,175 160	380,065 25,784	1,762,844 564	7,196,994 67,395	5,054,085 41,047	16,351 18	15,020	1,163		168 18	3,315	30 31		
100,167 23,982	62,273 15,971	1,588,448 141,703	5,200 4,600	3,000 14,799	22,669 1,454	1,069,635 106,963	505,103 8,585	3,882,420 395,372	2,307,632 279,834	12,445 195	7,945	4,300 2	200	193	14,822	32 33		
	750	4,764		3,200	82	7,375	163	25,118	17,580	4				4		34		
10,130 35,762 22,160	5,140 4,120 14,120	28,273 101,338 133,048	560	5,730 4,067 10,450	438 4,388 911	35,652 198,748 353,423	1,046 7,498 2,757	114,222 426,580 580,823	77,524 220,334 224,643	28 375 26		250 7		28 118 26		35 36 37		
6,400 25,140		73,127 80,742		4,880 12,225	184 3,537	200,632 344,449	1,285 3,137	320,616 731,393	118,699 383,807	24 42				24 12		38 39		
6,545	8,807	27,507		4,937	892	124,810	5,086	223,098	93,202	325	240	4		81		40		
6,020 525	8,807	21,139 6,368		3,822 1,115	774 118	106,607 18,203	4,892 194	190,008 33,090	78,509 14,693	322 3	240	4		78 3		41 42		
158,947 5,700 88,102	62,238 6,680 70,726	748,476 6,286 954,402	15,919 6,286 8,235	53,724 2,152 20,075	61,378 239 1,656,048	370,557 32,069 230,532	670,608 75 230,532	3,106,895 66,888 3,362,955	2,065,730 34,744 1,476,375	26,787 7,062	25,581 5,080	539		667 1,982	2,613 3,200	43 44 45		
15,963 61,258 25,628	9,314 69,425 15,931	47,782 366,059 72,012		3,457 50,382 9,175	240 6,576 919	81,137 395,769 80,631	1,686 4,400 3,446	167,014 1,088,075 251,671	84,191 687,906 167,594	155 225 105		50		105 225 105		46 47 48		
5,016 42,092	7,614 15,024	20,378 156,015	13,100	2,382 2,548	131 7,875	28,289 2,017,543	2,857 24,067	135,555 2,572,987	104,409 531,377	45 700	40 435			5 265		49 50		
33,217 7,522 677,516	24,580 1,620 865,967	277,290 11,741 4,851,827	4,702	1,449	6,447	236,360 69,932	173,015 5,027	890,458 427,228	481,083 352,269	1,593 369	1,338 30,081	124 965		131 118	120 13,908	51 52 53		
107,863 4,336	64,535 1,724	212,805 14,859	21,023	21,693	2,600	223,058 30,082	6,135 341	762,419 72,321	533,226 41,898	285 20	25 15			260 5		54 55		
291,994 250,290	136,166 174,524	2,813,291 1,384,909	513,051 4,149	11,251 50,437	197,913 36,782	3,660,746 3,032,526	45,568 58,602	10,076,586 5,453,709	6,370,272 2,362,581	29,614 9,329	29,117 6,795	279 455	68	150 2,079	367 680	56 57		
133,155 31,447	71,614 25,856	646,897 162,295	20,995	32,681 17,611	15,006 3,191	1,212,313 451,699	68,333 8,617	2,716,440 882,494	1,435,794 422,178	4,018 406	1,495	250 17		2,273 389	225	58 59		
104,621 84,307 4,150	73,697 67,762	367,096 294,911 22,793		56,357 42,797 5,786	3,589 2,810 159	1,052,455 916,213 35,818	12,038 10,305 872	2,162,822 1,866,371 90,100	1,098,329 939,853 53,410	241 220 12	125 125			116 95 12	5 5 61	60 61 62		
16,164	5,935	49,392		7,774	620	100,424	861	206,351	105,066	9				9		63		

\* Same number reported for one or more other months.

\* Same number reported throughout the year.



## MANUFACTURES—MISSOURI.

TABLE 37.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.			
						Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Male.	Female.			
									Maximum month.	Minimum month.								
1	Mineral and soda waters.....	195	940	230	71	59	24	556	Jy	867	Ja	361	614	584	17	13	\$1,564,222	
2	Minerals and earths, ground.....	9	208	3	17	6	3	179	Mh	212	No	150	176	175	.....	1	807,052	
3	Mirrors, framed and unframed.....	6	73	4	8	5	2	54	Se	67	No	45	52	52	.....	.....	95,030	
4	Models and patterns, not including paper patterns.....	23	145	26	8	12	2	97	Ja	113	Oc <sup>3</sup>	85	98	97	.....	1	97,775	
5	Mucilage and paste.....	6	88	7	9	9	10	53	Je	65	De <sup>3</sup>	46	46	40	6	.....	82,617	
6	Musical instruments, violins, stringed instruments, drums, and snares.....	5	15	4	2	.....	.....	9	( <sup>1</sup> )	9	( <sup>1</sup> )	9	10	9	.....	1	23,968	
7	Oil, not elsewhere specified.....	4	39	5	1	9	3	21	My	25	Ja	16	20	20	.....	.....	147,549	
8	Optical goods.....	4	171	.....	13	22	14	122	Jy	129	De <sup>3</sup>	119	119	94	20	5	331,681	
9	Paints.....	27	919	3	77	233	54	552	Je	654	Ja	457	498	462	35	1	4,984,796	
10	Paper goods, not elsewhere specified.....	5	265	3	11	9	10	232	Au	255	De	205	217	132	71	14	352,858	
11	Patent medicines and compounds.....	168	1,540	98	144	315	196	787	Mh	840	No	750	801	322	463	10	4,377,397	
12	Paving materials.....	25	720	7	40	16	5	652	My	809	De	335	586	586	.....	.....	947,313	
13	Perfumery and cosmetics.....	22	136	29	9	20	25	53	Ap	67	Oc	37	53	16	37	.....	420,046	
14	Photographic materials.....	5	266	.....	13	51	11	191	My	215	No	141	176	125	51	.....	1,065,497	
15	Photo-engraving.....	17	317	6	31	45	11	224	Mh	238	No	207	223	211	6	6	285,881	
16	Pickles, preserves, and sauces.....	11	127	10	9	28	10	70	Je	75	De	63	75	42	29	1	138,811	
17	Pipes, tobacco.....	7	329	5	13	9	1	301	Ja	321	Jy	281	297	231	47	17	314,200	
18	Plumbers' supplies, not elsewhere specified.....	7	359	3	21	15	7	313	Fe	354	De	275	276	276	.....	.....	641,221	
19	Pottery, earthen and stone ware.....	3	11	2	1	.....	.....	8	Mh	13	De <sup>3</sup>	6	6	5	.....	1	10,688	
20	Poultry, killing and dressing.....	10	238	5	10	39	12	172	De	257	Mh	127	246	224	22	.....	288,921	
21	Printing and publishing, book and job.....	435	6,785	400	345	685	232	5,123	.....	.....	.....	.....	5,183	3,781	1,296	93	13	9,569,291
22	Job printing.....	400	6,355	381	308	579	188	4,899	Mh	5,098	Jy	4,746	4,949	3,594	1,251	91	13	8,512,293
23	Book publishing and printing.....	4	133	1	9	8	7	108	Ja	116	Se	103	107	77	29	1	309,865	
24	Book publishing without printing.....	18	150	8	20	90	32	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	.....	.....	.....	.....	.....	444,442	
25	Linotype work and typesetting.....	13	147	10	8	8	5	116	De	129	Fe	94	127	110	16	1	302,694	
26	Printing and publishing, music.....	7	43	1	8	7	7	20	Oc	24	Fe <sup>3</sup>	18	20	15	5	.....	130,051	
27	Printing and publishing, newspapers and periodicals.....	851	7,801	832	389	1,648	713	4,279	.....	.....	.....	.....	4,329	3,491	786	46	6	11,678,081
28	Printing and publishing.....	59	3,996	25	158	1,311	421	2,081	No	2,115	Se	2,033	2,071	1,962	106	2	1	6,593,854
29	Printing, publishing, and job printing.....	672	3,469	730	170	208	163	2,198	De	2,231	Jy <sup>3</sup>	2,175	2,258	1,529	680	44	5	4,798,631
30	Publishing without printing.....	120	396	77	61	129	129	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	.....	.....	.....	.....	.....	285,597	
31	Refrigerators.....	9	176	3	16	14	6	137	My	169	Fe	105	116	113	2	1	246,962	
32	Regalia and society badges and emblems.....	6	73	4	7	6	9	47	Se	54	Fe	37	44	18	23	3	80,967	
33	Rubber goods, not elsewhere specified.....	6	269	4	13	13	4	235	Fe	281	Jy	194	258	156	101	1	350,228	
34	Saddlery and harness.....	107	1,197	108	58	209	19	803	De	1,042	Je	723	839	821	15	3	3,230,876	
35	Sausage.....	9	76	10	4	10	4	48	Se	53	Ap <sup>3</sup>	45	48	30	9	.....	189,867	
36	Shirts.....	19	2,039	5	40	33	14	2,547	Ja	3,222	Se	1,358	3,109	279	2,778	.....	52	1,303,819
37	Show cases.....	8	260	2	18	5	5	230	Mh <sup>3</sup>	238	No	219	223	223	.....	.....	418,676	
38	Signs and advertising novelties.....	21	220	17	16	23	6	158	.....	.....	.....	.....	150	120	30	.....	427,243	
39	Electric signs and advertising novelties.....	8	50	4	9	6	1	30	De	42	My	26	41	22	19	.....	103,263	
40	Signs, other than electric.....	13	170	13	7	17	5	128	My	163	Fe	92	109	98	11	.....	324,049	
41	Slaughtering and meat packing.....	31	5,811	13	122	451	73	5,152	No	5,620	Au	4,630	5,212	5,005	202	5	.....	20,260,193
42	Soap.....	9	796	6	19	151	99	521	My	565	Se	477	497	341	142	9	5	3,086,373
43	Sporting and athletic goods.....	5	230	1	13	14	10	192	De	231	Au	151	232	147	82	2	1	399,729
44	Stamped ware, not elsewhere specified.....	5	665	.....	13	36	5	611	Mh	739	No	435	581	441	140	.....	1,963,922	
45	Statuary and art goods.....	8	90	5	13	.....	4	68	Au	80	Fe	62	68	66	1	1	.....	89,300
46	Steam fittings and steam and hot-water heating apparatus.....	7	691	.....	24	92	42	533	Fe	629	No	381	387	381	.....	6	.....	2,333,979
47	Stereotyping and electrotyping.....	7	136	5	12	8	2	109	De	115	Jy	107	111	107	1	3	.....	84,978
48	Stoves and hot-air furnaces and ranges.....	15	2,141	.....	75	316	36	1,714	Ap	2,102	De	1,277	1,863	1,859	3	1	.....	8,515,433
49	Structural ironwork, not made in steel works or rolling mills.....	38	1,552	18	83	151	27	1,273	Ap	1,302	De	1,154	1,243	1,237	4	2	.....	3,231,285
50	Surgical appliances.....	5	24	2	4	.....	.....	18	( <sup>1</sup> )	18	( <sup>1</sup> )	18	.....	13	4	.....	8,023	
51	Tinware, not elsewhere specified.....	10	954	4	35	50	22	843	Mh <sup>3</sup>	878	De	764	774	579	172	12	11	1,785,363
52	Tobacco, chewing and smoking.....	15	3,532	10	40	538	73	2,871	Mh <sup>3</sup>	2,953	Ja	2,729	2,925	1,774	1,072	10	69	6,411,591
53	Tobacco, cigars and cigarettes.....	416	1,652	450	35	36	5	1,126	Fe	1,143	No	1,099	1,173	906	233	30	4	904,143
54	Tools, not elsewhere specified.....	19	238	18	11	10	8	191	.....	.....	.....	.....	197	189	.....	.....	.....	910,676
55	Shovels, spades, scoops, hoes, and machinists' tools.....	5	158	3	7	8	6	134	Ja	161	Je	43	140	136	.....	4	.....	696,632
56	Not specified.....	14	80	15	4	2	2	57	My	77	Je	42	57	53	.....	4	.....	214,044
57	Trunks and valises.....	21	719	14	39	65	16	585	Au	671	De	395	539	484	50	5	.....	1,039,988
58	Varnishes.....	7	75	1	12	13	2	47	Ja	52	De	40	40	33	7	.....	316,772	
59	Vinegar and cider.....	16	104	15	16	13	8	52	.....	.....	.....	.....	58	54	4	.....	423,965	
60	Vinegar.....	8	74	6	13	12	8	35	Je	48	De	28	36	32	4	.....	290,551	
61	Cider.....	8	30	9	3	1	.....	17	No <sup>3</sup>	22	Jy <sup>3</sup>	14	22	22	.....	.....	133,417	
62	Washing machines and clothes wringers.....	8	150	8	6	9	5	122	Mh	148	Je	82	120	115	.....	5	.....	294,895
63	Window and door screens and weather strips.....	13	133	11	12	6	5	99	My	139	De	64	87	87	.....	.....	194,274	

<sup>1</sup> Owned power only.<sup>2</sup> Includes rented power, other than electric.

# MANUFACTURES—MISSOURI.

35

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$83,904	\$53,981	\$297,898	\$3,710	\$33,212	\$10,237	\$637,197	\$18,766	\$1,623,226	\$967,263	845	258	266		321	10	1
27,050	5,355	95,687	2,500		2,478	129,387	32,267	366,110	204,456	1,235	1,165	25		45	30	2
11,256	6,084	32,920		3,020	571	85,995	2,193	151,510	63,322	90	50			40	20	3
13,252	11,464	65,147	320	8,277	825	39,226	3,982	192,184	148,976	126		27		99	2	4
16,490	10,904	35,482		2,170	992	213,547	3,705	509,135	291,883	260	200	10		50		5
1,716		5,101		1,206	113	6,009	233	17,178	10,936	3				3		6
1,875	11,920	15,274		2,343	1,125	175,557	1,038	280,698	104,103	50	41	4		5		7
66,135	24,413	61,868		14,052	972	429,111	1,576	736,015	305,328	34				34		8
211,045	296,216	367,841		59,885	28,605	3,487,676	43,711	5,450,382	1,918,995	2,715	2,170	21		524	334	9
20,164	17,973	115,967		4,596	1,547	476,606	6,307	773,292	290,379	184	120			64	30	10
434,584	517,161	384,104	26,262	84,475	32,766	1,912,713	17,448	6,828,865	4,898,704	642	161	142		339	201	11
50,687	16,185	320,190	35,054	9,517	5,929	102,059	45,225	671,345	524,061	2,605	1,471	24		1,110		12
31,580	95,187	23,549	7,352	4,106	5,254	279,946	2,306	533,316	251,064	104				104		13
53,800	51,516	125,391		5,280	6,823	440,486	9,113	1,006,790	557,191	350	310			40	65	14
69,944	43,961	233,229	1,800	15,864	1,206	54,961	6,489	529,309	467,859	90				90		15
17,040	21,073	35,932		4,908	745	335,570	1,645	471,865	134,650	47	20	2		25		16
16,187	6,090	109,018		425	1,659	224,506	4,646	433,448	204,296	332	195	49		88		17
44,800	13,919	211,362		11,220	3,951	337,102	15,241	740,898	388,555	644	500	35		109	10	18
376		3,281		360	30	1,186	435	8,127	6,506	10	10					19
15,433	21,488	96,193	1,786	3,340	4,471	2,136,224	8,238	2,387,146	242,684	206	50			156	25	20
771,087	887,442	3,498,837	307,108	349,929	47,126	3,720,284	138,044	12,434,192	8,575,864	5,508	1,022	185		4,301	562	21
699,032	811,082	3,305,065	139,100	328,823	44,881	3,637,328	132,835	11,497,077	7,726,814	5,356	947	185		4,224	502	22
20,270	11,066	68,723	400	6,208	375	43,607	1,583	226,484	181,294	100	75			25	60	23
43,216	60,008		166,608	9,090	1,121	5,477	110	440,583	434,996							24
18,599	5,286	125,049	1,000	5,808	740	33,872	3,518	270,048	232,660	52				52		25
10,370	10,818	14,868	11,822	5,722	924	17,007	872	201,933	184,053	21				21		26
944,276	2,136,958	3,139,029	713,272	322,816	96,415	4,821,045	154,748	18,034,624	13,058,831	8,080	2,498	1,040	9	4,533	1,432	27
543,012	1,015,727	1,910,456	148,732	197,852	71,606	3,585,623	88,541	11,690,637	8,016,473	5,630	2,494	27		3,109	1,421	28
276,032	301,493	1,228,573	48,480	98,231	23,849	1,150,742	65,959	5,039,318	3,822,617	2,450	4	1,013	9	1,424	11	29
125,232	219,738		516,060	26,733	960	84,680	248	1,304,669	1,219,741							30
30,980	22,847	110,613		9,418	1,246	172,044	5,058	434,333	256,631	202				202		31
12,620	7,727	23,068		4,689	422	46,512	1,415	113,169	65,242	22	6			16		32
23,925	16,614	128,355	500	15,717	712	443,280	9,388	726,028	273,360	657	16			641		33
126,224	196,101	522,804	53,547	60,396	16,005	2,388,524	16,463	3,937,020	1,532,033	906	171	30		705	65	34
8,800	15,756	38,540		6,720	524	103,545	8,085	452,378	103,748	282	90			192		35
73,791	48,608	990,161		51,225	4,763	2,294,336	28,844	3,815,735	1,492,555	1,019	810	15		194	463	36
49,084	14,714	146,497		10,980	2,871	251,213	7,789	574,484	315,482	351		6		345		37
25,550	50,565	141,492	12,162	14,266	1,010	148,085	1,139	703,045	553,821	27		2		25		38
12,360	19,818	12,966		3,304	370	63,783	564	163,107	98,760	12		2		10		39
13,190	30,747	128,526	12,162	10,962	640	84,302	575	539,938	455,061	15				15		40
280,808	536,421	3,423,416	6,685	16,838	52,078	83,733,226	602,200	91,608,121	7,272,686	15,378	14,203	122		1,053	5,983	41
62,877	204,192	279,289		26,329	15,149	2,766,978	43,842	4,919,685	2,108,865	1,358	1,275			83	525	42
26,463	18,495	97,673		8,039	912	234,654	4,907	483,606	243,955	153				153		43
42,430	46,758	333,615	388	42,827	8,498	1,462,559	17,285	2,340,513	860,669	742	700			42	470	44
18,636	2,364	58,390	2,800	5,850	379	35,904	2,275	162,231	124,052	35				35		45
86,535	158,342	370,228	7,610	3,710	17,844	523,457	60,175	1,319,966	730,334	776				770		46
22,200	6,218	78,676		6,340	482	38,066	6,393	199,403	154,944	267				267		47
281,298	307,550	1,203,779	7,570	7,920	46,613	2,284,987	53,416	6,644,251	4,305,848	3,039	1,922			1,117	646	48
179,711	175,746	892,982	33,644	18,256	18,230	1,688,002	46,854	3,509,463	1,774,007	2,364	680	49		1,635	365	49
4,620		9,297		1,620	232	12,552	438	34,879	21,889	3				3		50
75,087	76,037	432,289		18,663	14,025	1,226,553	20,146	2,207,117	960,418	743	390	50		303	504	51
186,088	640,772	1,352,164	23,769	6,516	5,659,070	13,138,982	49,371	31,063,327	17,874,974	1,845	1,835			10	983	52
38,459	39,469	637,388	620	46,140	191,605	867,643	5,377	2,317,516	1,444,496	14				14		53
21,849	13,051	114,823	300	5,172	4,527	175,710	12,310	399,869	211,849	522	305	15		202		54
17,785	9,570	76,078		1,829	4,028	134,855	6,510	278,204	136,839	352	255	3		94		55
4,004	3,481	38,745	300	3,343	499	40,855	5,800	121,665	75,010	170	50	12		108		56
80,054	76,077	356,535		58,413	7,833	729,684	13,366	1,786,654	1,043,604	441	150	4		287	330	57
29,340	15,679	25,335	359	4,120	2,010	215,489	2,857	341,513	123,167	60	4	7		49		58
29,180	16,710	26,728	795	9,848	1,890	222,269	5,694	382,490	154,527	293	147	49		97		59
23,080	15,930	17,699	795	8,115	1,103	133,731	4,785	268,546	130,030	161	89	6		66		60
6,100	780	9,029		1,733	796	88,538	909	113,944	24,497	132	58	43		31		61
10,815	19,979	66,341	5,882	5,370	1,737	176,941	980	349,889	171,968	326	300	23		3		62
22,489	9,472	69,418		3,882	1,342	88,325	2,829	231,132	139,978	271	100	51		120		63

<sup>1</sup> Same number reported for one or more other months.

<sup>2</sup> Same number reported throughout the year.

<sup>3</sup> No wage earners employed.



# MANUFACTURES—MISSOURI.

37

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					Electric horse-power generated in establishments reporting.
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal-revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

THE STATE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$157,029	\$199,858	\$374,095	.....	\$23,649	\$18,518	\$1,312,599	\$19,893	\$3,484,293	\$2,151,801	1,609	1,500	55	.....	54	1,291	1
132,049	129,772	265,066	.....	17,858	15,181	878,375	11,826	2,805,610	1,915,409	1,143	1,100	35	.....	8	1,141	2
24,980	70,086	109,029	.....	5,791	3,337	434,224	8,067	678,683	236,392	466	400	20	.....	46	150	3
16,090	12,309	90,849	\$205	2,359	1,411	148,998	2,470	281,332	120,855	735	654	10	20	51	3	4
.....	.....	2,100	.....	456	16	3,500	585	9,800	5,715	33	.....	.....	.....	33	.....	5
1,398,308	2,151,181	10,152,119	43,837	202,923	422,840	65,669,332	2,624,518	88,971,490	20,677,649	55,810	33,981	653	.....	21,176	18,897	6

Lamps.....	3	Peanuts, grading, roasting, cleaning, and shelling.....	4	Smelting and refining, lead.....	3	Toys and games.....	3
Lapidary work.....	1	Pens, fountain and stylographic.....	4	Smelting and refining, zinc.....	1	Type founding.....	2
Lard, not made in slaughtering and meat-packing establishments.....	1	Petroleum, refining.....	1	Smelting and refining, not from the ore.....	1	Umbrellas and canes.....	3
Lasts.....	1	Photographic apparatus.....	4	Soda-water apparatus.....	2	Upholstering materials, not elsewhere specified.....	2
Lead, bar, pipe, and sheet.....	1	Printing materials.....	3	Springs, steel, car, and carriage.....	2	Vault lights and ventilators.....	1
Liquors, vinous.....	6	Pumps, not including power pumps.....	3	Stationery goods, not elsewhere specified.....	2	Wall plaster.....	1
Lubricating greases.....	2	Roofing materials, other than metal.....	4	Steam packing.....	3	Watch cases.....	1
Malt.....	1	Rules, ivory and wood.....	1	Stencils and brands.....	3	Whips.....	1
Musical instruments, organs.....	2	Saws.....	2	Stoves, gas and oil.....	2	Window shades and fixtures.....	2
Musical instruments, pianos.....	2	Scales and balances.....	2	Suspenders, garters, and elastic woven goods.....	2	Wood preserving.....	1
Nets and seines.....	1	Screws, machine.....	2	Theatrical scenery.....	2	Wool pulling.....	1
Oil, cottonseed, and cake.....	5	Sewing machines and attachments.....	2	Tin foil.....	1	Wool scouring.....	1
Oilcloth and linoleum, floor.....	3	Shipbuilding, wooden, including boat building.....	3			Woolen goods.....	2
Oleomargarine.....	1						

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES.

\$2,042,047	\$2,972,275	\$10,503,625	\$450,440	\$301,188	\$868,400	\$30,975,119	\$1,005,504	\$60,953,411	\$28,972,788	35,706	18,510	2,186	7	15,002	5,788	1
7,400	1,253	15,527	.....	1,676	580	14,346	141	44,637	30,150	17	.....	5	.....	12	.....	2
.....	520	25,213	.....	9,825	271	27,645	1,823	90,201	60,728	53	.....	31	.....	22	.....	3
1,000	500	1,336	.....	430	59	2,253	26	7,005	5,326	3	.....	3	.....	.....	.....	4
31,538	60,125	255,920	1,885	18,336	5,518	299,816	3,350	965,692	662,526	167	.....	.....	.....	167	.....	5
12,310	13,988	61,617	.....	12,226	1,466	80,454	2,095	210,940	127,191	102	.....	.....	.....	102	.....	6
15,919	6,247	91,733	3,744	7,720	1,780	243,947	979	422,942	178,016	451	405	.....	.....	46	499	7
87,619	427,236	968,901	950	84,831	30,771	3,352,974	88,640	7,093,367	3,651,853	1,973	1,545	22	.....	406	1,464	8
25,450	21,860	206,146	.....	2,800	4,216	96,802	95,464	537,917	345,651	1,377	1,010	2	.....	365	117	9
1,040	1,188	25,365	.....	980	572	34,526	486	80,319	45,307	41	.....	8	.....	33	.....	10
3,800	1,378	31,710	2,555	5,160	397	43,377	1,340	114,166	69,449	57	.....	25	.....	32	.....	11
14,507	7,238	106,501	.....	12,630	1,394	126,900	5,750	327,500	194,850	273	125	39	.....	109	.....	12
5,029	2,933	50,981	.....	6,174	756	72,814	3,146	176,340	100,380	172	125	3	.....	44	.....	13
9,478	4,305	55,520	.....	6,456	938	54,086	2,604	151,100	94,470	101	.....	36	.....	65	.....	14
52,953	23,582	844,271	.....	7,101	523,719	50,389	50,389	1,508,839	923,731	1,440	1,385	.....	.....	55	931	15
6,800	39,522	15,960	.....	5,084	940	63,077	10,477	171,963	98,409	165	100	.....	.....	65	.....	16
4,040	5,480	2,438	.....	1,528	223	21,323	113	57,551	36,115	6	.....	.....	.....	6	.....	17
38,093	25,929	254,128	8,823	18,930	2,241	721,798	7,487	1,194,921	465,636	189	.....	40	.....	149	.....	18
8,600	3,212	26,078	.....	3,156	296	74,334	519	135,493	60,640	13	.....	.....	.....	13	.....	19
32,520	73,279	50,015	1,200	17,727	4,149	1,216,709	8,060	1,647,667	422,898	680	310	.....	.....	370	75	20
27,951	50,490	138,224	500	19,868	6,861	625,519	26,189	1,459,860	808,152	758	230	.....	.....	528	115	21
18,051	41,937	81,292	.....	17,829	5,783	442,092	7,304	1,013,230	563,834	254	230	.....	.....	24	115	22
9,900	8,553	56,932	500	2,039	1,078	183,427	18,885	446,630	244,318	504	.....	.....	.....	504	.....	23
30,403	34,134	337,975	1,370	19,674	4,933	553,662	6,390	1,216,457	656,405	250	.....	4	.....	246	.....	24
3,600	.....	10,306	.....	2,190	156	59,174	246	89,875	30,455	8	.....	.....	.....	8	.....	25
11,400	12,992	23,725	.....	4,400	336	97,797	539	224,477	126,141	7	.....	.....	.....	7	.....	26
44,460	26,053	79,004	.....	4,470	4,470	3,191,153	24,124	3,528,892	313,615	1,537	1,385	.....	.....	452	.....	27
25,294	44,625	95,479	1,000	16,450	4,664	1,179,314	14,822	1,766,002	571,866	622	415	5	.....	202	189	28
102,333	79,972	354,871	3,546	34,913	9,759	523,430	20,645	1,419,072	874,997	1,125	271	453	7	394	80	29
5,300	1,560	27,200	480	1,740	354	35,442	5,156	88,940	48,342	77	.....	12	.....	65	.....	30
97,033	78,412	327,671	3,066	33,173	9,405	487,988	15,489	1,330,132	826,655	1,048	271	441	7	329	80	31
18,247	10,416	72,590	25,000	7,105	1,072	255,399	2,167	442,962	185,396	69	.....	12	.....	57	.....	32
25,180	21,002	176,419	900	16,365	3,444	321,021	8,194	720,848	391,633	563	310	53	.....	200	.....	33
11,480	13,127	84,899	500	6,545	1,801	231,677	4,808	466,793	230,305	346	250	25	.....	71	.....	34
13,700	7,875	91,520	400	9,820	1,643	89,344	3,336	254,055	161,325	217	60	28	.....	129	.....	35
15,860	8,016	24,991	.....	3,962	321	56,910	1,999	115,445	56,536	62	10	12	.....	40	.....	36
3,250	2,580	16,205	360	2,766	222	16,793	598	52,906	35,515	24	.....	.....	.....	24	.....	37
6,400	6,163	21,222	.....	1,740	69	37,570	525	90,235	52,140	4	.....	.....	.....	4	.....	38
3,645	5,555	17,552	.....	3,335	778	77,880	3,264	140,962	59,818	205	125	.....	.....	80	.....	39
29,380	35,316	122,779	.....	22,152	3,496	506,061	5,543	788,019	276,415	165	80	.....	.....	85	65	41
36,252	68,089	351,005	1,248	15,981	11,793	1,066,219	9,175	1,660,488	585,094	1,481	1,120	125	.....	236	20	42
25,710	10,916	119,094	4,398	5,110	2,697	162,564	8,109	410,379	239,706	533	.....	83	.....	450	.....	42

\* Same number reported throughout the year.

\* Same number reported for one or more other months.



OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$7,725	\$3,312	\$35,987	.....	\$4,616	\$1,072	\$123,036	\$1,419	\$250,594	\$126,139	86	.....	.....	.....	86	.....	1
10,300	4,537	35,399	.....	3,940	1,547	45,661	1,521	103,646	119,464	59	.....	31	.....	28	.....	2
.....	3,400	13,886	\$200	1,878	493	5,886	1,052	34,867	27,929	51	.....	27	.....	24	2	3
41,400	82,706	55,868	.....	10,340	2,781	527,286	5,476	788,977	256,215	412	225	7	.....	180	3	4
27,760	124,593	30,116	550	18,325	2,485	140,109	1,317	535,662	394,236	73	6	37	.....	30	.....	5
21,198	6,316	127,974	500	1,609	1,087	41,343	12,723	235,550	181,484	882	288	4	.....	590	.....	6
720	2,030	1,745	.....	571	74	3,852	60	20,389	16,447	3	.....	.....	.....	3	.....	7
.....	1,034	6,014	.....	800	98	14,204	253	27,219	12,672	7	.....	.....	.....	.....	.....	8
200,448	104,305	896,264	65,406	94,890	8,800	945,309	33,802	3,080,014	2,100,903	1,168	100	129	.....	929	115	9
194,337	680,841	624,849	166,710	92,157	23,713	1,623,618	26,701	4,918,022	3,267,703	3,404	1,225	30	.....	2,149	620	10
2,400	900	11,813	.....	3,180	83	9,200	535	36,544	26,809	28	.....	.....	.....	28	.....	11
10,240	31,736	76,855	2,162	9,213	526	88,339	622	394,383	305,422	9	.....	.....	.....	9	.....	12
13,853	9,577	72,897	6,786	6,339	1,140	133,636	4,223	299,660	161,801	98	.....	33	.....	65	.....	13
16,333	8,580	37,437	.....	6,350	1,084	17,227	1,095	139,706	121,384	27	.....	.....	.....	27	.....	14
15,346	15,772	69,210	.....	6,194	1,798	237,288	3,308	394,813	154,217	113	.....	15	.....	98	.....	15
3,300	6,758	68,003	.....	4,231	18,182	76,655	342	217,792	140,795	.....	.....	.....	.....	.....	.....	16
6,500	2,867	19,561	.....	6,500	374	111,648	1,128	165,034	52,258	80	.....	55	.....	25	.....	17
717,733	754,156	3,375,447	150,656	250,615	677,318	11,156,266	493,724	20,514,540	8,864,550	14,496	7,835	894	.....	5,767	1,493	18

Lard, not made in slaughtering and meat-packing establishments.....	1	Paper goods, not elsewhere specified..	1	Safes and vaults.....	1	Theatrical scenery.....	1
Liquors, distilled, whisky.....	1	Peanuts, grading, roasting, cleaning, and shelling.....	1	Sausage.....	3	Tools, not elsewhere specified.....	3
Liquors, malt.....	3	Pens, fountain and stylographic.....	1	Show cases.....	3	Toys and games.....	1
Lithographing.....	2	Photographic apparatus.....	2	Sporting and athletic goods.....	1	Umbrellas and canes.....	1
Looking-glass and picture frames.....	2	Photographic materials.....	1	Stationery goods, not elsewhere specified.....	1	Upholstering materials, excelsior.....	1
Lubricating greases.....	1	Photo-engraving.....	3	Statuary and art goods.....	3	Vault lights and ventilators.....	1
Lumber and timber products.....	1	Plumbers' supplies, not elsewhere specified.....	3	Steam fittings and steam and hot-water heating apparatus.....	2	Vinegar and cider.....	3
Millinery and lace goods.....	12	Poultry, killing and dressing.....	1	Steam packing.....	1	Washing machines and clothes wringers.....	1
Mirrors, framed and unframed.....	1	Printing and publishing, music.....	1	Stereotyping and electrotyping.....	2	Watch cases.....	1
Mucilage and paste.....	2	Printing materials.....	1	Stoves and ranges.....	1	Window and door screens and weather strips.....	5
Musical instruments, violins, and other stringed instruments.....	1	Regalia and society badges and emblems.....	1	Stoves, gas and oil.....	1	Window shades and fixtures.....	1
Musical instruments, pianos.....	1	Roofing materials, other than metal.....	2	Suspenders, garters, and elastic woven goods.....	1	Wood preserving.....	1
Oil, not elsewhere specified.....	3	Rubber goods, not elsewhere specified.....	2			Woodengoods, not elsewhere specified.....	1
Optical goods.....	2						

\$456,795	\$680,264	\$2,675,250	\$48,275	\$149,968	\$191,356	\$10,349,260	\$258,090	\$17,067,642	\$6,460,292	9,109	5,247	558	.....	3,304	541	1
6,280	4,136	160,795	.....	5,548	1,100	605,572	4,555	911,533	301,406	266	155	.....	.....	111	.....	2
836	4,853	74,573	150	7,313	3,102	246,607	10,466	414,816	157,743	121	.....	.....	.....	121	.....	3
3,300	.....	35,088	72	5,068	763	32,812	1,633	106,801	72,336	47	.....	8	.....	39	.....	4
39,175	66,245	430,265	21,076	8,535	9,331	1,282,597	7,429	2,097,678	807,552	362	80	.....	.....	282	.....	5
38,731	208,331	298,822	244	4,395	12,508	1,256,136	19,564	2,184,452	908,752	809	646	.....	.....	163	119	6
2,700	480	11,440	.....	732	143	32,068	355	59,519	27,096	50	.....	25	.....	25	.....	7
4,800	1,732	38,619	.....	3,282	625	59,624	514	125,276	65,138	5	.....	.....	.....	5	.....	8
24,360	19,502	75,507	50	1,030	4,626	2,446,248	38,854	2,714,036	228,934	1,324	730	8	.....	586	75	9
22,210	3,773	76,900	1,840	5,522	1,160	72,135	8,867	227,836	146,834	258	.....	58	.....	200	.....	10
6,080	6,142	22,201	.....	1,720	256	63,504	835	103,391	38,902	6	.....	.....	.....	6	.....	11
16,860	9,638	56,083	3,000	19,132	3,629	11,875	38,432	216,635	166,328	1,384	1,285	.....	.....	99	170	12
13,880	18,725	120,414	.....	8,137	2,100	565,897	3,084	778,614	209,633	131	.....	12	.....	119	.....	13
13,261	12,288	48,691	.....	1,290	1,039	344,124	2,430	449,249	102,695	202	20	47	.....	135	.....	14
3,300	.....	7,743	1,200	2,065	370	15,196	583	37,352	21,573	74	50	.....	.....	24	.....	15
416	.....	6,672	.....	1,248	182	15,195	523	38,200	22,482	31	.....	.....	.....	31	.....	16
3,960	2,880	15,320	.....	2,180	469	26,052	1,262	53,955	26,641	49	38	.....	.....	11	.....	17
7,770	1,456	6,996	10	480	132	37,176	615	80,187	42,396	9	.....	.....	.....	9	.....	18
27,300	18,294	153,963	2,327	11,564	1,985	95,681	5,227	462,710	361,802	114	.....	27	.....	87	.....	19
41,620	102,550	103,695	16,784	4,805	3,786	142,896	5,727	693,067	544,444	238	4	.....	.....	234	.....	20
1,476	.....	23,976	.....	1,713	10,541	25,102	127	71,272	46,043	2	.....	.....	.....	2	.....	21
178,480	199,239	907,487	1,522	54,209	133,450	2,972,703	106,988	5,241,063	2,161,372	3,627	2,239	373	.....	1,015	177	22

<sup>1</sup> Same number reported for one or more other months.<sup>2</sup> Same number reported throughout the year.

Gas machines and gas and water meters.....	2	Jewelry.....	2	Pickles and sauces.....	2	Toys and games.....	1
Glass, cutting, staining, and ornamenting.....	1	Liquors, malt.....	3	Signs and advertising novelties.....	1	Vinegar.....	1
Grease and tallow, not including lubricating greases.....	1	Looking-glass and picture frames.....	3	Slaughtering and meat packing.....	2	Washing machines and clothes wringers.....	1
Hand stamps.....	2	Millinery and lace goods, trimmed hats and hat frames.....	1	Stationery goods, not elsewhere specified.....	1	Wirework.....	1
House-furnishing goods, feather pillows and beds.....	1	Musical instruments, violins and other stringed instruments.....	1	Stereotyping and electrotyping.....	1	Wood, turned and carved.....	2
		Photo-engraving.....	1	Structural ironwork, not made in steel works or rolling mills.....	2		



## MANUFACTURES—MISSOURI.

TABLE 37.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS, DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.				
						Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Male.	Female.				
									Maximum month.	Minimum month.									
CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.																			
1	ST. LOUIS—All industries.....	2,787	104,187	1,900	3,930	10,450	2,849	85,058	Ap 90,433	De 76,373	84,826	63,523	20,104	617	582		\$314,728,285		
2	Automobiles, including bodies and parts.....	16	542	5	32	56	15	434	My 487	De 321	385	374	11				1,688,095		
3	Automobile repairing.....	5	18	4			1	13	Fe 18	No 10	11	11					29,999		
4	Awnings, tents, and sails.....	10	295	4	24	36	12	219	My 265	No 174	215	86	129				478,613		
5	Blacking, stains, and dressings.....	10	78	6	13	16	7	36	My 3	No 30	34	14	17		3		166,063		
6	Bookbinding and blank-book making.....	23	514	18	25	18	12	441	Fe 478	No 412	424	186	217	7	14		615,304		
7	Boots and shoes, including cut stock and findings.....	27	10,260	4	152	1,114	261	8,729	Ap 10,455	No 5,768	8,085	5,105	2,842	80	58		22,886,292		
8	Boxes, fancy and paper.....	23	896	6	46	39	19	786	Fe 841	Oc 710	760	233	455	4	68		2,027,326		
9	Boxes, wooden packing.....	16	837	2	36	30	11	758	Jy 866	No 675	697	653	11	33			1,854,119		
10	Brass and bronze products.....	11	423	6	28	37	3	349	Au 382	Fe 325	346	344			2		1,630,448		
11	Bread and other bakery products.....	470	3,513	478	73	415	64	2,483	Oc 2,522	My 2,420	2,515	1,814	646	7	48		6,957,700		
12	Brick tile, pottery, and other clay products.....	19	3,496	1	71	183	29	3,212	Je 3,650	De 2,533	3,209	3,182	10	17			11,588,416		
13	Brooms, from broom corn.....	13	84	11	2	8		63	De 70	Fe 56	67	64		3			35,309		
14	Buttons.....	3	12	5				7	Mh 9	Jy 3	9	5	3	1			3,257		
15	Carpets, rag.....	3	7	4				3	No 7	Mh 1	8	7	1				2,150		
16	Carriage and wagon materials.....	10	234	4	19	8	7	196	Ap 257	Au 127	186	168	16	2			569,829		
17	Carriages, wagons, and repairs.....	78	1,749	73	64	93	37	1,482			1,582	1,561	21				3,619,437		
18	Carriages and wagons.....	67	1,714	61	61	93	37	1,462	My 1,817	De 1,080	1,561	1,540	21				3,580,293		
19	Repair work only.....	11	35	12	3			20	My 21	Ja 19	21	21					39,144		
20	Cars and general shop construction and repairs by steam-railroad companies.....	8	1,748		21	56	3	1,668	Ap 1,736	De 1,603	1,606	1,604	2				981,301		
21	Chemicals.....	15	1,130	5	53	256	32	784	Se 862	De 733	776	672	91	5	8		5,581,501		
22	Cleansing and polishing preparations.....	13	58	6	12	12	5	23	Ap 31	Oc 17	21	16					57,734		
23	Clothing, men's.....	42	3,233	31	91	286	82	2,743			2,970	860	2,086	1	23		4,045,677		
24	Men's and youths'.....	39	3,158	28	84	274	78	2,694	Ja 3,072	Oc 2,159	2,916	824	2,068	1	23		3,931,601		
25	Boys'.....	3	75	3	7	12	4	49	Ap 56	Au 42	54	36	18				113,986		
26	Clothing, women's.....	66	2,593	47	109	112	54	2,271			2,339	480	1,806	1	52		2,004,996		
27	Suits, skirts, and cloaks.....	34	1,097	21	63	68	27	923	Se 1,059	De 721	917	374	534		9		975,981		
28	Undergarments and petticoats.....	10	848	10	21	17	11	789	Ja 914	No 690	858	68	757	1	32		567,742		
29	All other.....	22	648	16	25	32	16	559	Se 656	No 463	564	38	515		11		461,273		
30	Coffee and spice, roasting and grinding.....	20	1,093	5	68	442	79	499	Ja 516	My 483	493	309	181		3		5,123,203		
31	Coffins, burial cases, and undertakers' goods.....	5	402		12	33	4	413	Fe 434	De 391	391	309	80	2			1,249,573		
32	Confectionery and ice cream.....	63	1,971	58	64	169	40	1,640			1,613	627	961	1	24		3,372,877		
33	Confectionery.....	48	1,726	45	33	145	31	1,472	Oc 1,719	Ap 1,368	1,453	470	958	1	24		2,440,544		
34	Ice cream.....	15	245	13	31	24	9	168	Au 218	Fe 126	160	157	3				932,333		
35	Cooperage and wooden goods, not elsewhere specified.....	18	657	11	24	14	4	604	Se 692	Ja 517	591	573		18			1,190,209		
36	Copper, tin, and sheet-iron work.....	85	646	80	46	31	8	481	Se 527	Ja 430	484	474	2	8			1,005,473		
37	Cutlery and tools, not elsewhere specified.....	12	189	12	8	8	6	155	Ja 180	Je 60	158	149	1	8			602,355		
38	Dental goods.....	3	21	1	5		1	14	(*) 9	(*) 14	14	11	3				137,551		
39	Druggists' preparations.....	8	273	2	21	75	21	154	Au 164	Jy 143	156	61	93	1	1		638,912		
40	Electrical machinery, apparatus, and supplies.....	12	1,728	5	95	152	56	1,420	Ja 1,578	De 1,295	1,320	877	417	4	22		3,418,417		
41	Electroplating.....	8	84	11	6	1	1	65	Mh 73	De 56	55	53		2			51,352		
42	Enameling and japanning.....	3	42	3				39	Ja 40	No 38	41	40	1				14,737		
43	Engraving and disinking.....	8	13	8				5	Oc 6	Jy 3	7	5		2			2,247		
44	Engraving, steel and copper plate, including plate printing.....	8	95	4	13	6	3	69	Ja 75	Jy 60	76	44	31	1			39,977		
45	Flavoring extracts.....	8	174	3	15	64	14	78	Jy 98	De 59	60	33	27				508,968		
46	Flour-mill and gristmill products.....	5	140		14	19	9	98	Au 120	Ja 89	106	106					1,585,255		
47	Food preparations, not elsewhere specified.....	23	625	13	50	127	45	390	Oc 445	Fe 358	443	310	113	13	7		1,309,700		
48	Foundry and machine-shop products.....	118	4,204	52	270	323	89	3,470			2,985	2,968	3	14			10,987,923		
49	Boiler shops and foundries.....	13	1,152	1	71	45	11	1,024	Mh 1,107	De 837	862	888		4			3,040,870		
50	Machine shops.....	105	3,052	51	199	278	78	2,446	Fe 2,707	No 1,941	2,063	2,080	3	10			7,947,053		
51	Furnishing goods, men's.....	9	489	1	22	31	11	424	Se 488	De 325	430	113	307	2	8		357,035		
52	Furniture.....	56	3,063	17	162	193	45	2,646			2,621	2,539	53	26	3		5,324,067		
53	Wood, other than rattan or willow.....	36	2,035	10	96	126	25	1,778	Mh 1,929	De 1,662	1,744	1,680	40	21	3		3,772,954		
54	Metal.....	4	533		36	45	10	442	Mh 482	De 348	440	433	12	4			821,184		
55	Store and office fixtures.....	16	495	7	30	22	10	426	Au 481	Mh 371	428	426	1	1			720,629		
56	Gas and electric fixtures and lamps and reflectors.....	6	279	4	15	31	12	217	Fe 227	No 197	198	193	3	2			286,611		
57	Glass, cutting, staining, and ornamenting.....	14	210	7	10	10	4	179	Fe 195	De 160	172	152	13	7			373,831		
58	Hats and caps, other than felt, straw, and wool.....	7	159	9	6	2	3	139	No 155	Ja 121	144	84	59	1			106,378		
59	Ice, manufactured.....	7	350	1	17	12	1	319	Je 380	Fe 290	324	324					3,610,029		
60	Jewelry.....	13	322	13	20	18	23	248	Ja 279	Au 217	260	232	20	8			183,335		
61	Liquors, malt.....	12	5,483		82	428	37	4,941	Je 5,244	De 4,719	4,901	4,635	262	4			56,190,389		
62	Looking-glass and picture frames.....	5	19	4	1			14	Au 20	Fe 12	15	12		3			22,677		
63	Lumber and timber products.....	5	461		23	8	2	428	Ja 472	No 376	381	339	25	11	6		941,025		
64	Lumber, planing-mill products, not including planing mills connected with sawmills.....	48	1,227	23	79	76	9	1,040	Au 1,125	De 946	968	962	1	5			2,303,731		
65	Marble and stone work.....	37	441	27	47	31	7	329	Ja 372	De 297	354	353	1				979,986		
66	Mattresses and spring beds.....	15	178	13	8	12	5	140	Oc 148	Fe 131	144	113	30	1			275,254		

¹ Owned power only.

² Includes rented power, other than electric.

# MANUFACTURES—MISSOURI.

41

OR MORE, BY INDUSTRIES, AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal-revenue and corporation-income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

\$9,066,425	\$13,976,919	\$51,149,781	\$1,111,623	\$2,684,370	\$11,693,901	\$198,271,210	\$5,535,086	\$360,479,868	\$156,673,572	169,982	127,647	5,806	8	36,521	48,996	1
71,688	103,504	327,286	.....	17,024	7,369	1,015,190	14,451	1,881,578	851,937	550	150	.....	.....	400	.....	2
.....	600	7,470	.....	1,466	241	2,772	778	26,378	22,828	17	.....	.....	.....	17	.....	3
38,522	35,691	82,699	.....	21,296	2,145	504,421	3,569	754,572	246,582	90	.....	.....	.....	90	.....	4
19,645	21,984	18,311	.....	5,128	803	214,200	2,123	357,620	141,207	227	130	.....	.....	97	.....	5
45,510	26,870	204,453	1,900	14,838	1,671	139,213	8,508	582,532	434,811	246	.....	.....	.....	246	.....	6
432,234	1,640,896	4,453,136	.....	62,423	107,346	22,548,965	81,197	31,048,945	8,418,783	5,602	3,950	.....	.....	1,652	2,100	7
84,938	54,656	348,675	306	42,966	4,783	550,828	18,543	1,255,751	680,380	542	125	20	.....	397	125	8
81,870	38,049	334,065	.....	33,516	13,697	1,192,891	17,565	2,036,182	825,726	3,962	2,945	4	.....	1,013	5	9
77,188	53,265	236,961	.....	3,382	10,513	2,367,125	31,896	2,936,923	537,902	445	160	.....	.....	285	80	10
148,526	524,517	1,422,109	3,932	191,137	46,552	4,691,840	188,174	9,453,546	4,573,532	2,153	822	28	.....	1,303	289	11
244,171	207,841	1,776,156	3,647	14,711	78,398	596,928	520,305	4,059,758	2,942,525	6,789	6,405	65	.....	319	1,351	12
2,150	4,199	34,595	155	2,285	380	84,502	1,034	142,059	56,523	27	.....	.....	.....	27	.....	13
.....	2,216	.....	.....	552	31	2,210	73	7,650	5,367	4	.....	4	.....	.....	.....	14
.....	1,138	.....	140	375	26	447	81	3,800	3,272	18	.....	15	.....	3	.....	15
32,664	13,614	100,964	.....	13,110	2,810	369,744	3,040	632,577	259,793	831	785	2	.....	44	.....	16
140,790	145,550	1,031,902	9,173	79,408	29,135	2,715,682	25,810	4,484,048	1,742,556	1,251	609	6	.....	636	80	17
137,288	145,550	1,015,297	9,173	73,941	25,752	2,703,012	24,784	4,423,148	1,095,352	1,221	609	6	.....	606	80	18
3,492	.....	16,005	.....	5,467	383	12,070	1,026	60,900	47,204	30	.....	.....	.....	30	.....	19
31,098	46,778	1,294,162	3,941	.....	2,234	788,500	46,028	2,235,117	1,400,589	1,390	597	.....	.....	793	78	20
199,025	315,080	458,546	.....	13,321	40,373	3,891,935	67,986	6,471,061	2,511,140	1,389	1,120	.....	.....	269	670	21
19,562	11,555	12,336	14,729	4,715	266	50,724	1,059	159,555	107,872	48	.....	.....	.....	48	.....	22
205,342	388,635	1,268,727	84,184	114,913	17,721	3,788,574	21,937	6,829,034	3,018,523	798	350	.....	6	442	84	23
194,202	373,010	1,247,499	69,692	110,253	17,400	3,690,713	20,932	6,596,260	2,884,615	789	350	.....	6	433	84	24
11,050	15,625	21,223	14,492	4,660	321	97,861	1,005	232,774	133,908	9	.....	.....	.....	9	.....	25
210,528	181,356	1,062,309	1,782	97,304	7,246	2,028,141	19,181	5,353,268	2,405,946	581	100	.....	.....	481	.....	26
120,408	97,217	539,483	150	53,528	4,037	1,252,382	8,955	2,573,746	1,312,409	228	.....	.....	.....	228	.....	27
47,228	21,949	285,791	354	22,886	2,040	986,300	5,903	1,530,399	538,196	221	100	.....	.....	121	.....	28
42,892	42,190	237,035	1,278	20,890	1,169	689,459	4,323	1,249,123	555,341	132	.....	.....	.....	132	.....	29
222,050	618,717	273,729	1,658	86,068	22,613	9,109,946	53,239	11,971,901	2,808,716	1,808	253	.....	.....	1,555	10	30
37,600	39,126	252,495	210	8,200	4,804	527,989	5,012	958,607	425,606	755	750	.....	.....	5	54	31
150,263	262,060	648,050	150	83,122	17,984	2,775,558	51,605	4,668,334	1,841,171	2,105	1,245	6	.....	854	484	32
98,459	241,314	520,252	.....	76,006	10,705	2,115,154	31,586	3,589,785	1,443,045	1,320	910	.....	.....	410	379	33
51,804	20,746	127,807	150	7,116	7,279	660,404	20,019	1,078,549	398,126	785	335	6	.....	444	105	34
56,596	16,647	325,424	.....	11,680	8,240	893,012	10,487	1,447,103	543,604	1,227	985	.....	.....	242	53	35
116,152	26,365	346,187	3,090	35,903	6,810	948,065	10,202	1,793,360	835,093	377	.....	114	.....	263	6	36
17,449	9,636	95,439	.....	3,129	3,513	134,426	7,967	306,358	163,963	349	225	20	.....	104	.....	37
9,300	740	8,426	.....	2,600	61	13,128	748	58,346	44,470	5	.....	.....	.....	5	.....	38
41,876	99,145	67,131	150	10,855	4,204	485,048	3,624	1,171,492	682,820	85	45	.....	.....	40	66	39
233,974	175,826	827,542	31,345	30,960	16,685	1,186,496	42,076	3,275,247	2,046,675	1,400	30	.....	.....	1,370	.....	40
7,704	1,270	45,018	.....	5,340	376	20,397	6,008	107,538	81,133	443	.....	.....	.....	443	.....	41
.....	.....	28,922	.....	2,352	21	7,591	1,946	51,516	41,979	11	.....	.....	.....	11	.....	42
.....	.....	2,796	.....	1,689	162	133	6	12,318	12,179	.....	.....	.....	.....	.....	.....	43
21,354	4,488	40,391	260	6,826	115	17,277	552	106,512	88,683	17	.....	.....	.....	17	.....	44
41,056	118,512	40,598	100	8,650	2,376	411,923	3,080	770,471	355,468	97	.....	.....	.....	97	.....	45
45,007	44,065	63,510	.....	5,700	4,712	2,593,462	11,790	2,064,053	358,801	1,598	1,450	.....	.....	148	.....	46
114,040	185,885	176,442	665	29,231	7,780	4,247,323	20,541	5,129,857	861,993	1,083	575	175	.....	333	.....	47
549,333	415,862	2,437,742	36,116	86,060	62,110	3,911,343	242,026	8,886,184	4,732,815	7,390	3,483	1,508	2	2,397	732	48
169,533	64,944	696,962	1,560	6,378	18,475	1,102,449	105,710	2,316,215	1,108,056	1,271	1,015	30	.....	226	340	49
389,800	350,918	1,740,780	34,556	79,682	43,635	2,808,894	136,316	6,569,969	3,624,759	6,110	2,468	1,478	2	2,171	392	50
46,252	31,887	134,638	.....	18,500	1,541	566,756	1,314	901,718	333,648	35	.....	.....	.....	35	.....	51
316,182	126,899	1,567,564	2,883	64,755	36,515	2,495,045	40,275	5,621,890	4,086,570	4,866	4,247	114	.....	495	673	52
187,520	136,035	974,904	.....	41,634	24,064	1,539,134	17,644	3,421,949	1,865,171	3,440	3,340	52	.....	48	289	53
64,768	54,252	260,461	.....	1,738	8,685	611,551	12,157	1,180,964	556,956	543	450	.....	.....	93	264	54
63,894	24,612	332,199	2,883	21,383	3,766	344,060	10,474	1,018,977	664,443	873	457	62	.....	354	120	55
27,388	35,910	131,780	.....	14,049	2,130	182,455	11,601	579,999	382,943	360	.....	.....	.....	360	.....	56
18,730	12,786	104,158	4,600	10,959	918	77,812	7,407	305,183	219,964	170	.....	.....	.....	170	.....	57
9,680	1,815	89,625	.....	6,990	586	252,289	1,397	387,197	133,511	16	.....	.....	.....	16	.....	58
37,000	10,912	271,722	10,944	1,207	27,726	176,794	240,827	1,128,614	710,993	8,700	8,300	400	.....	1,579	.....	59
41,574	45,332	194,770	.....	30,562	4,531	234,949	1,362	655,198	418,887	111	.....	.....	.....	111	.....	60
509,679	738,088	4,106,988	4,073	84,007	4,306,118	5,177,175	471,594	26,829,474	21,180,705	25,210	24,252	915	.....	43	12,978	61
2,400	.....	8,224	.....	3,012	166	14,900	265	33,733	18,568	5	.....	.....	.....	5	.....	62
54,130	11,948	236,904	1,064	4,910	4,872	393,226	9,082	814,509	412,201	1,325	1,215	.....	.....	110	76	63
132,601	77,242	713,522	.....	28,252	18,413	893,573	30,962	2,112,814	1,188,279	4,948	3,520	130	.....	1,298	650	64
69,903	33,508	279,671	9,042	16,265	7,148	609,227	16,302	1,180,214	554,685	1,155	500	.....	.....	655	10	65
14,540	10,873	88,777	.....	10,317	1,253	233,146	5,101	409,017	170,770	234	.....	.....	.....	234	.....	66

\* Same number reported for one or more other months.

\* Same number reported throughout the year.

## MANUFACTURES—MISSOURI.

TABLE 37.—DETAIL STATEMENT FOR THE STATE AND FOR CITIES OF 50,000 INHABITANTS

INDUSTRY AND CITY.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.					
						Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.				
									Maximum month.	Minimum month.									
1	ST. LOUIS—Continued.																		
2	Millinery and lace goods.....	20	733	10	37	41	27	618	Fe	705	Je	239	600	67	525	2	6	701,451	
3	Trimmed hats and hat frames....	11	544	5	26	27	20	466	Je	705	Je	239	453	45	404	1	3	572,892	
4	All other.....	9	189	5	11	14	7	152	Fe	168	Je	143	147	22	121	1	3	128,640	
5	Mineral and soda waters.....	38	366	23	40	33	8	262	Jy	387	Ja	196	256	248	6	2	2	553,014	
6	Models and patterns, not including paper patterns.....	16	111	16	8	8	2	77	Ja	87	Oc	65	77	76	1	1	1	73,985	
7	Paint and varnish.....	26	812	3	68	183	43	515	Je	613	Ja	427	463	430	32	1	1	4,792,101	
8	Patent medicines and compounds....	100	1,261	40	119	229	176	697	Ap	747	No	660	700	252	436	7	5	3,877,261	
9	Paving materials.....	6	276	16	8	1	1	252	Je	350	De	139	189	189	1	1	1	385,268	
10	Perfumery and cosmetics.....	17	118	20	8	17	24	40	My	60	Oc	33	49	14	35	1	1	420,550	
11	Photo-engraving.....	12	229	5	22	36	8	158	Ap	173	No	140	153	144	5	4	1	157,331	
12	Pickles, preserves, and sauces.....	5	102	4	8	25	10	55	Je	63	De	48	57	33	20	1	3	118,362	
13	Plumbers' supplies, not elsewhere specified.....	4	289	13	9	4	4	263	Fe	308	De	233	231	234	1	1	1	488,381	
14	Printing and publishing, book and job.....	217	4,372	186	204	571	151	3,260	.....	.....	.....	.....	3,281	2,393	701	84	13	6,056,125	
15	Job printing.....	195	4,142	177	180	475	116	3,194	Mh	3,363	No	3,081	3,215	2,335	785	82	13	5,515,902	
16	Book publishing and printing.....	15	188	4	23	93	34	34	Ja	42	Se	29	33	28	4	1	1	461,741	
17	Linotype work and typesetting.....	7	42	5	1	3	1	32	Fe	34	Je	29	33	30	2	1	1	78,482	
18	Printing and publishing, newspapers and periodicals.....	110	2,928	56	154	928	301	1,489	.....	.....	.....	.....	1,471	1,350	114	6	1	5,238,055	
19	Printing and publishing.....	20	2,185	5	75	784	134	1,137	Mh	1,195	Se	1,082	1,105	1,046	58	1	1	4,129,324	
20	Printing, publishing, and job printing.....	23	524	11	33	53	75	352	De	378	Jy	335	366	304	56	6	1	925,961	
21	Publishing without printing.....	67	269	40	46	91	92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	182,770	
22	Refrigerators.....	6	161	2	14	13	6	126	My	162	Fe	95	103	100	2	1	1	227,062	
23	Saddlery and harness.....	27	547	18	23	130	7	369	De	537	Au	332	394	381	12	1	1	1,322,255	
24	Sausage.....	6	30	7	2	1	1	19	No	20	Ap	18	19	19	1	1	1	103,867	
25	Shirts.....	12	2,432	2	38	30	14	2,348	Fe	3,058	Se	1,155	2,901	2,67	2,582	52	52	1,255,015	
26	Show cases.....	5	192	11	2	4	4	175	Mh	185	No	163	164	164	5	1	1	355,895	
27	Slaughtering and meat packing.....	17	2,366	8	77	194	40	2,047	De	2,187	Mh	1,931	2,208	2,150	53	5	1	7,792,947	
28	Soap.....	9	796	6	19	151	99	521	My	565	Se	477	497	341	142	9	5	3,086,373	
29	Stamped ware.....	5	665	13	36	5	5	611	Mh	739	No	435	581	441	140	1	1	1,993,922	
30	Statuary and art goods.....	5	58	1	13	3	3	41	My	45	De	36	41	40	1	1	1	75,425	
31	Stereotyping and electrotyping.....	4	113	11	7	2	2	93	Mh	94	Je	92	95	91	1	3	1	63,950	
32	Stoves and furnaces, including gas and oil.....	11	2,373	68	353	36	36	1,916	Ap	2,409	Au	1,241	2,186	2,155	21	10	1	9,019,131	
33	Structural ironwork, not made in steel works or rolling mills.....	23	1,216	11	60	122	21	1,002	Ap	1,064	De	889	969	963	4	2	1	2,495,835	
34	Surgical appliances.....	3	17	2	3	.....	.....	12	( <sup>o</sup> )	12	( <sup>o</sup> )	12	12	10	2	1	1	6,023	
35	Tinware, not elsewhere specified.....	5	810	4	25	40	15	726	Mh	780	De	650	660	477	160	12	11	1,507,419	
36	Tobacco, cigars.....	211	853	218	20	18	2	595	Mh	613	No	574	604	532	57	15	1	523,749	
37	Trunks and valises.....	8	539	3	27	45	10	454	Au	516	De	292	403	356	43	4	1	798,194	
38	Vinegar and cider.....	5	50	10	11	6	2	23	( <sup>o</sup> )	23	( <sup>o</sup> )	23	23	23	1	1	1	162,383	
39	Window and doorscreens and weather strips.....	6	103	4	9	6	5	79	My	111	De	57	66	66	1	1	1	175,014	
40	Wirework, including wire rope and cable, not elsewhere specified.....	10	863	6	24	102	19	712	Fe	798	No	645	662	610	42	10	1	3,298,609	
41	Wood, turned and carved.....	4	19	8	.....	.....	.....	11	Fe	15	Oc	6	12	12	1	1	1	18,180	
42	All other industries *.....	312	21,564	130	692	2,010	607	18,125	.....	.....	.....	.....	18,546	14,456	3,822	130	128	88,576,872	

* All other industries embrace—																	
Agricultural implements.....	1																
Artificial flowers.....	3																
Artificial limbs.....	5																
Artificial stone products.....	1																
Asbestos products.....	1																
Babbitt metal and solder.....	2																
Bags, other than paper.....	3																
Baking powders.....	3																
Baskets, and rattan and willow ware.....	3																
Bells.....	3																
Belting, leather.....	2																
Billiard tables and materials.....	4																
Bluing.....	1																
Boxes, cigar.....	3																
Brushes.....	2																
Butter.....	8																
	2																
Cars and shop construction and repairs by electric-railroad companies.....	1																
Cars, electric-railroad, not including operations of railroad companies.....	3																
Cars, steam-railroad, not including operations of railroad companies.....	2																
Cash registers and calculating machines.....	5																
Clocks.....	3																
Clothing, men's, buttonholes.....	1																
Cordage and twine.....	2																
Cordials and flavoring sirups.....	2																
Corsets.....	3																
Cotton goods.....	4																
Cotton lace.....	1																
Dairymen's supplies, other than cream separators.....	1																
Dyeing and finishing textiles.....	2																
Engines, steam, gas, and water.....	2																
Engravers' materials.....	1																
Engraving, wood.....	6																
Envelopes.....	1																
Feathers and plumes.....	5																
Fertilizers.....	2																
Fire extinguishers, chemical.....	3																
Flags and banners.....	4																
Foundry supplies.....	1																
Fuel, manufactured.....	1																
Fur goods.....	3																
Furs, dressed.....	1																
Gas, illuminating and heating.....	3																
Gas machines.....	1																
Glass.....	3																
Gloves and mittens, leather.....	3																
Grease and tallow, not including lubricating greases.....	2																
Hair work.....	5																
Hand stamps.....	2																
Hardware.....	3																
Hardware, saddlery.....	7																
Hat and cap materials.....	2																
Hats, fur-felt.....	1																
Hats, straw.....	5																
House-furnishing goods, not elsewhere specified.....	4																
Ink, writing.....	2																
Instruments, professional and scientific.....	2																
Iron and steel, steel works and rolling mills.....	4																
Iron and steel, bolts, nuts, washers, and rivets.....	2																
Iron and steel, doors and shutters.....	1																
Iron and steel forgings.....	3																

## MANUFACTURES—MISSOURI.

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OR MORE, BY INDUSTRIES AND FOR CITIES OF 10,000 TO 50,000 INHABITANTS: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal-revenue and corporation-income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. <sup>1</sup>	Internal-combustion engines. <sup>2</sup>	Water wheels and motors. <sup>1</sup>	Electric (rented).	

## CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SPECIFIED INDUSTRIES—Continued.

87,521	53,110	266,569	-----	43,564	2,417	781,651	10,099	1,625,577	833,827	223	125	-----	-----	98	5	1
67,207	47,175	198,184	-----	30,904	1,680	646,419	8,488	1,338,726	683,819	205	125	-----	-----	80	5	2
20,314	5,935	68,385	-----	12,660	737	135,232	1,611	286,851	150,008	18	-----	-----	-----	18	-----	3
53,132	32,620	155,335	3,050	17,693	4,008	290,651	7,387	739,432	441,394	306	174	-----	-----	132	10	4
13,252	8,064	51,261	120	6,599	332	33,340	2,930	157,317	121,047	75	-----	-----	-----	75	-----	5
198,985	229,189	337,308	359	53,665	27,834	3,175,879	41,092	5,002,918	1,785,947	2,363	1,949	21	-----	393	331	6
395,052	374,999	332,056	25,277	61,934	29,735	1,697,990	14,666	6,084,497	4,371,841	488	135	79	-----	274	201	7
20,447	5,824	114,020	33,225	7,003	4,011	36,417	13,531	272,853	222,905	985	565	-----	-----	420	-----	8
30,860	93,157	21,804	7,352	3,535	5,180	276,094	2,216	512,927	234,617	101	-----	-----	-----	101	-----	9
52,904	33,464	144,631	1,800	13,155	805	36,004	4,824	362,721	321,893	60	-----	-----	-----	60	-----	10
15,480	19,939	29,000	-----	3,558	564	314,082	1,231	432,250	116,937	30	10	-----	-----	20	-----	11
20,664	9,699	169,509	-----	8,040	3,371	229,416	12,639	531,503	289,448	499	400	-----	-----	99	10	12
493,373	728,740	2,193,311	222,048	216,026	32,508	2,444,694	85,635	7,949,286	5,418,957	3,800	785	-----	-----	3,015	385	13
443,453	665,064	2,138,314	66,624	202,623	31,107	2,416,180	83,704	7,412,751	4,912,887	3,760	785	-----	-----	2,975	385	14
48,360	63,244	21,091	154,424	11,248	1,186	23,582	529	470,122	446,011	25	-----	-----	-----	25	-----	15
1,560	432	33,906	1,000	2,155	215	4,952	1,402	66,413	60,059	15	-----	-----	-----	15	-----	16
500,164	1,218,676	1,460,718	432,431	140,889	49,089	2,260,015	61,230	8,655,593	6,334,348	2,444	1,265	-----	-----	1,179	812	17
320,048	957,538	1,149,833	26,706	106,537	43,995	1,872,908	47,554	6,517,992	4,597,530	2,044	1,265	-----	-----	779	812	18
86,470	99,025	310,885	27,328	14,395	4,654	320,730	13,488	1,199,205	864,987	400	-----	-----	-----	400	-----	19
93,646	162,113	-----	378,397	19,957	440	66,377	188	938,396	871,831	-----	-----	-----	-----	-----	-----	20
28,580	21,947	98,800	-----	6,238	1,163	163,444	4,523	397,789	229,822	174	-----	-----	-----	174	-----	21
58,920	116,163	242,446	-----	34,905	8,008	943,280	5,389	1,649,099	700,430	130	-----	4	-----	126	-----	22
4,500	1,482	14,126	-----	2,520	306	33,170	1,510	127,478	42,798	69	60	-----	-----	9	-----	23
71,331	46,598	919,504	-----	48,075	4,262	2,022,850	27,659	3,443,731	1,393,222	972	810	-----	-----	162	463	24
35,630	10,112	101,013	-----	8,760	2,355	193,395	6,472	426,754	226,887	219	-----	-----	-----	219	-----	25
180,488	258,957	1,352,077	1,197	15,320	26,136	33,556,748	147,009	36,506,152	2,802,395	5,869	5,740	-----	-----	129	2,338	26
62,877	204,102	279,289	-----	20,329	15,149	2,766,978	43,842	4,919,685	2,108,865	1,358	1,275	-----	-----	83	525	27
42,430	46,758	333,615	388	42,827	8,498	1,462,559	17,285	2,340,513	860,669	742	700	-----	-----	42	470	28
18,636	1,884	33,856	2,500	4,500	326	28,464	2,051	111,374	80,859	35	-----	-----	-----	35	-----	29
20,900	5,766	66,931	-----	4,800	347	29,661	5,463	166,403	131,279	197	-----	-----	-----	197	-----	30
261,848	458,911	1,335,670	7,570	7,920	56,675	2,673,317	45,566	7,478,760	4,759,887	3,029	2,187	-----	-----	842	932	31
132,998	134,890	720,350	10,710	9,266	15,635	1,291,708	34,259	2,721,358	1,395,391	1,951	455	16	-----	1,480	240	32
3,120	-----	5,181	-----	780	114	3,265	438	17,071	13,368	3	-----	-----	-----	3	-----	33
50,741	60,265	363,079	-----	12,469	12,227	989,265	16,838	1,812,304	806,201	630	390	35	-----	205	504	34
25,936	21,583	378,150	500	26,816	95,820	433,955	2,571	1,293,736	807,210	4	-----	-----	-----	4	-----	35
60,634	62,121	276,024	-----	39,563	5,425	544,982	10,748	1,402,555	846,825	350	150	-----	-----	200	330	36
21,035	11,620	12,166	795	7,637	703	123,744	1,600	203,865	78,521	52	-----	-----	-----	52	-----	37
17,489	9,472	56,201	-----	1,620	1,137	69,880	2,518	185,962	113,555	221	100	6	-----	115	-----	38
147,263	196,391	350,745	-----	16,157	18,011	1,161,489	18,456	3,264,732	2,084,787	1,521	1,500	-----	-----	21	1,287	39
-----	7,077	-----	-----	899	77	3,974	597	15,657	11,086	33	-----	10	-----	23	-----	40
1,817,573	2,465,342	10,845,549	132,062	345,288	6,316,560	51,063,542	2,501,086	94,320,205	40,755,577	48,214	39,549	2,109	-----	6,556	17,920	41

Jewelry and instrument cases.....	2	Musical instruments, organs.....	2	Rubber goods, not elsewhere speci-	4	Suspenders, garters, and elastic	1
Jute goods.....	2	Musical instruments, pianos.....	1	fied.....	2	woven goods.....	1
Labels and tags.....	7	Net and seines.....	1	Saws.....	1	Theatrical scenery.....	1
Lapidary work.....	1	Oil, cottonseed, and cake.....	1	Scales and balances.....	1	Tin foil.....	1
Leads.....	1	Oil, not elsewhere specified.....	1	Screws, machine.....	2	Tobacco, chewing and smoking.....	7
Lead, bar, pipe, and sheet.....	1	Oleomargarine.....	1	Sewing machines.....	2	Toys and games.....	1
Leather goods, not elsewhere speci-	1	Optical goods.....	2	Shipbuilding, wooden, including	2	Type founding.....	2
fied.....	4	Paper goods, not elsewhere specified.	4	boat building.....	2	Umbrellas and canes.....	2
Leather, tanned, curried, and finished	9	Peanuts, grading, roasting, clean-	3	Signs and advertising novelties.....	6	Upholstering materials, not else-	1
liquors, vinous.....	2	ing, and shelling.....	3	Smelting and refining, zinc.....	1	where specified.....	1
Lithographing.....	10	Photographic apparatus.....	2	Smelting and refining, not from the	1	Wall plaster.....	1
Lubricating greases.....	1	Photographic materials.....	4	ore.....	1	Washing machines and clothes	3
Malt.....	1	Printing and publishing, music.....	5	Soda-water apparatus.....	2	wringers.....	3
Minerals and earths, ground.....	2	Printing materials.....	2	Sporting and athletic goods.....	4	Whips.....	1
Mirrors, framed and unframed.....	4	Pumps, not including power pumps	3	Springs, steel, carriage, and wagon.	2	Window shades and fixtures.....	2
Mucilage and paste.....	4	Regalia and society badges and em-	5	Steam fittings.....	5	Wool pulling.....	1
Musical instruments and materials,	2	blems.....	5	Steam packing.....	2	Wool scouring.....	1
not specified.....	2	Roofing materials, other than metal.	2	Stencils and brands.....	3		

## CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

\$70,793	\$144,654	\$607,045	\$18,000	\$5,570	\$53,696	\$2,315,651	\$40,139	\$3,888,376	\$1,532,586	1,989	1,643	-----	-----	346	341	42
50,320	81,930	205,527	7,611	9,323	7,765	455,208	10,839	1,269,702	767,655	1,068	819	-----	-----	249	60	43
140,483	206,749	1,329,260	3,071	9,806	37,487	3,667,335	127,731	6,214,645	2,419,579	3,530	2,800	2	-----	728	1,473	44
176,289	338,440	603,229	424,453	23,921	38,661	4,697,211	46,253	8,086,920	3,343,426	1,826	932	86	-----	808	280	45
139,417	125,539	617,985	16,354	24,279	55,689	3,938,759	181,476	5,950,150	1,829,915	3,774	1,117	300	-----	2,357	113	46
65,196	112,705	856,620	3,500	5,796	16,986	1,789,737	47,833	3,136,734	1,299,164	1,366	1,105	29	-----	232	785	47
99,817	183,977	1,018,305	1,500	2,872	22,646	3,000,994	72,210	4,993,624	1,920,420	1,869	1,835	4	9	21	2,494	48
67,869	97,287	488,164	1,283	18,285	17,779	1,885,857	65,043	2,921,686	970,786	1,778	1,433	36	-----	309	191	49
205,099	204,622	1,242,970	5,804	33,984	42,230	3,583,397	182,488	6,192,954	2,427,069	4,646	3,534	71	-----	1,041	817	50
16,110	22,527	90,302	-----	4,185	6,140	471,057	16,838	706,227	218,332	619	202	65	-----	352	30	51

\*Same number reported throughout the year.

\*Statistics for Independence can not be shown without disclosing individual operations.